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THE ACHIEVEMENT OF THE ARMY MEDICAL DEPARTMENT IN THE WORLD WAR

IN THE LIGHT OF GENERAL MEDICAL PROGRESS *

MERRITTE W. IRELAND, M.D.
Surgeon General, United States Army
WASHINGTON, D. C.

Whatever is due to the Medical Department of the United States Army for its achievement during the recent war may be credited to the training and experience of its regular personnel, on the administrative side, and to the generous and efficient cooperation of the physicians and surgeons of this country, on the professional side. When we entered upon this war, every military man in the country realized that we were unprepared for it. Not that the possibility of getting into a war of such dimensions had been ignored by officers of the Army, who in fact, with but small encouragement, had done everything humanly possible to be ready for the emergency; but the fact has developed that every modern war of magnitude requires national as well as military mobilization. When we got into the European war, every one was made to realize that the whole nation was at war, as had been true of all the countries then engaged in the tremendous struggle.

To be unprepared for war, under any conditions of space or time, seems to be the chronic state and fate of all republics and democracies, from Athens down. Anglo-Saxons, familiar with the dubious policy of "muddling through," are prone to regard this condition with cheerful cynicism, as a racial or national trait. But there is a sentence of the great Napoleon which sheds light on the matter, drawn as it was from an experience with military affairs unparalleled in history. "Three fourths of mankind," Napoleon said, "never do the necessary things until occasion arises, and just then it is too late." Human nature, in other words, is little inclined to put restraint upon itself and go through what seems tedious and disagreeable to attain an important end, except under compulsion, through training and discipline, or under stress of impending emergency, when, as Napoleon observed, it is usually too late. Left to themselves, our children would scarcely acquire any education worth considering. We owe that to the schoolteacher. And so it is with nations, once defined by an eminent statesman as "great simple-minded children." What scientific men have told us about crowd psychology and group psychology will but confirm this view, that even large nations, without the self-direction and self-discipline that comes from training, may be, in wartime, like helpless, defenseless children. Like the Athenians, we, too, have prided ourselves on our democratic mode of government, that "in election to public offices we consider neither class nor rank," that "we stand chiefly in fear to transgress against the public and are obedient to those who are for the time in office," that in war, "we trust not to secret preparation and deceit, but to our own courage in action." In the great war we have just passed through, our men in the trenches gallantly sustained the reputation of the American soldier. Our troops first got into mass action on the morning of May 28, 1918. Less than six months later, our share of the work was over. The proverbial luck of young nations was with us. But fortune is uncertain, and it behooves us to be more wary as we grow older. I hope to show, in this brief sketch, that, for the medical profession at least, war has been a very efficient schoolmaster.

* Fourth Mary Scott Newbold Lecture, read before the College of Physicians of Philadelphia, Feb. 4, 1921.

MEDICAL ADMINISTRATION

On the side of medical administration, we entered the European war with much better preparation than had been the lot of our forces in either the Civil War or the Spanish-American War. Our memorable experience with typhoid fever during the Spanish-American War taught its lesson and pointed a useful moral. The lesson was the old and often reiterated lesson of the past, that infectious diseases are more dangerous to fighting armies than the bullets of the enemy. The moral was that what is called medical administration in armies must be permitted to work untrammeled, with the generous support of both the medical profession and the line of the army itself, if we are to operate against these diseases with the same efficiency that well-trained military forces operate against the enemy. When, at the close of the Spanish-American War, the lengthy investigation of the Dodge Commission explored the causes and prescribed the remedies for our deficiencies in medicomilitary administration, the matter was taken very seriously to heart by the late Gen. Robert M. O'Reilly, who devoted his whole administrative period as Surgeon-General of the Army to correcting these defects and to doing his uttermost to make our Medical Corps a highly efficient military machine.

Not to take up time with all the recommendations of the Dodge Commission, I will briefly say that what an army mainly requires, in peace or war, is personnel and material supplies, including food and shelter. With adequate equipment and efficient personnel, almost anything can be accomplished. On the side of matériel, General O'Reilly enabled us to equip our field hospitals

and sanitary organizations more rapidly than they could be organized as to personnel. On the side of personnel, he created the Medical Reserve Corps, through which device the Medical Department acquired over 30,000 officers from the civilian profession for the recent war. In such matters as the introduction of antityphoid vaccination and the aid given to Professor Chittenden of Yale, in his experiments on the physiologic economy of nutrition, General O'Reilly upheld one of the time-honored traditions of the Army Medical Department from the days of Beaumont down, namely, the encouragement of scientific research.

When we entered the European war, our army existed mainly on paper, as "tables of organization," blank forms to be filled in as to personnel and matériel on occasion. In the Texan mobilization we had, for the first time since the Civil War, a mobilized division in the field. This required the organization of certain sanitary field units, and these detached nuclei proved to be starting points for the development of the complex system of sanitary formations required in the World War. As a result of the recommendations of the Dodge Commission, a full year's supply of medicines, hospital appointments and nonperishable stores, adequate for an army of about 300,000 men, had been accumulated and laid by; and fifty base hospital units had been organized by the civilian profession in different cities, through the Red Cross, and under direction of Col. Jefferson R. Kean.

On our entry into the war, then, we had already a fair start in the matter of equipment and medical supplies, for which Congress subsequently appropriated more than half a billion dollars for the use of the Medical Department during the war period. Largely through the mobilization of the Medical Reserve Corps, the personnel of the Medical Corps was increased by Nov. 30, 1918, to 30,591 medical officers, and 264,181 enlisted men, an organization one and one-third times the size of the whole Regular Army of Jan. 1, 1917. The commissioned Ambulance Service was increased from zero to 209, the commissioned Veterinary Corps from 62 to 2,002, the commissioned Dental Corps from 86 to 5,937, the commissioned Sanitary Corps from zero to 2,919, the Army Nurse Corps from 403 to 21,480. The Surgeon-General's Office at Washington, which, on April 6, 1917, consisted of the Surgeon-General, his staff of six officers and 149 civilian employees, became, at the height of the war period, an organization of thirty administrative units, with a personnel of 262 medical officers and 1,889 civilians. Yet, the total expenditures of the Medical Department up to April 30, 1919 ($314,544,000), were two hundred million dollars less than the actual appropriation for supplies, and only 2.2 per cent. of the total expenditures of the entire Army.

CARREL-DAKIN TREATMENT

Thus, by the time our troops got into active operations, we had the sinews of war, supplies and personnel, and the additional advantage of the sanitary experience already gained by our allies at the front. As you know, this was the first war in history in which the mortality from battle casualties exceeded that from communicable diseases. The first and most important changes in military surgery were therefore centered on wound treatment. In 1914, operative surgery was entirely aseptic. But, with the dirt and grime of trench warfare, over ground cultivated for centuries, and therefore swarming with pathogenic organisms, asepsis was no longer possible and the revival of the antiseptic surgery of Lister was almost a foregone conclusion. As described by Crile:[1]

> The early states of wound treatment on the Western Front were haphazard and experimental, a matter of dispute between "the claims of the value of various chemical agents against those of no chemical agent, of moist dressings against dry; of hot against cold; of frequent dressings against infrequent, and of no dressings against both; of sunlight and of electric light against occlusions; of immersion against hot air; of bacteriological control against clinical judgment; of vaccines, toxins and foreign proteins against normal reaction; of wound inoculation with harmless organisms against wound sterilization; of isotonic against hypertonic solutions; paste has competed with paste, bipp with ip; sap with both and chromic pastes with all."

Out of all this controversy and welter of opinions, there was at last evolved one of the great surgical discoveries of the war, the application to wound treatment of the principle of disinfection by the release of a gas from a liquid solution. Of this method, the Carrel-Dakin, Finney[2] says conclusively that "it is one of the most important and far-reaching contributions of the war to the armamentarium of the surgeon." As Keen[3] says:

> Lister taught us, above all, how to prevent infection; Dakin and Carrel, following Lister's principles, have taught us how to conquer even rampant infection. For nearly half a century we surgeons have been fighting firmly intrenched infection, but always in vain. It required the stern stimulus of war to enable us to win the victory.

Now, although the physicochemical principle involved was familiar to us in ordinary commercial chlorid of lime sterilization or in antiseptic throat pastils, the Carrel-Dakin method had a long foreground and thereby hangs a tale. In his Mütter lecture, delivered before this College in 1902, the late Col. Louis A. La Garde demonstrated that the pathogenic organisms in powder or on projectiles are not destroyed by the heat of firing but are carried directly into the wound. We have to reckon, then, with the fact that there is no such thing as a sterile battle wound. Now, the wounds from high explosive shells and other great missiles used in this war differed from those of any other war, not only in the frightful laceration of the tissues, but in the fact that the whirling, vibratory motion of the projectile completely devitalized such tissues, converting them into ideal culture mediums for the pathogenic micro-organisms carried into them. In the first year of the war, the base hospitals were full of such septic wounds, which had developed during the time required to transport the wounded back to base for treatment. Necessity is the mother of invention, and the necessity for the Carrel-Dakin treatment was created by a military principle. That principle was the rapid evacuation of the wounded from the firing line, with the utilitarian nonmedical aim of relieving the fighting forces of encumbrance and of returning those recovered from wounds to the firing line as soon as practicable. As humanitarian physicians, it grieved us to see our soldiers die from septic wounds, and it was our bounden ethical duty to save their lives; but as military officers, we could not afford to let them die, for the issue, at the time, was uncertain, and the odds were tremendous. To make this great salvage service efficient and effective, centers of triage were established and surgical

1. Crile, G. W.: Tr. Am. Surg. Assn., Philadelphia **37**: 35, 1919.
2. Finney, J. M. T.: Tr. Cong. Am. Phys. & Surg., New Haven, **11**:15.
3. Keen, W. W.: The Treatment of War Wounds, Ed. 2, Philadelphia, 1918, p. 75.

service was pushed up to the front, so that the Carrel tubes could be inserted in the wounds before evacuation to the rear. The effect on wound treatment was miraculous. Part of Carrel's treatment was the mechanical cleansing and removal of débris and of loose devitalized tissues from the wound. From this, it was but a step to débridement, or complete excision of the devitalized tissues by the knife, a kind of mechanical asepsis evolved by Gale and Lemaitre. Of 206 gunshot wounds treated in this way in Evacuation Hospital No. 2, Colonel Brewer records that 93.5 per cent. healed without infection or suppuration. It was these two principles of wound treatment which enabled us to return such large percentages of our wounded to the front for duty. Of the advantages which were ours in this respect, Brewer [4] has spoken forcibly:

> It was fortunate for our men that we did not have to go through these two or three years of experimental work where so many died and so many suffered intensely, and where the results were so unfortunate. We were able to begin where they left off, and it is to the hearty and cordial cooperation of the French and British medical services that we owe this. Our men, as soon as they came over, our splendid surgeons that volunteered in such large numbers at the beginning of the war, were taken in by the French and British surgeons, given work to do, and everything possible was done to facilitate their work. As a result of that, last January when our forces began to go into the lines, and we established our advanced evacuation hospitals, we were able to employ surgical teams of not only some of America's most distinguished surgeons, but of those who had the inestimable advantage of having worked with the masters of surgery of the French and British armies.

I have dilated on these methods at the start, because we may not enjoy this advantage a second time, and because these surgical principles, the most important which came out of the war, need not be lost to civil surgery, but may indeed be of the highest practical value in industrial and railway surgery. The rest of our war surgery, even the orthopedic and maxillofacial, was mainly an extension of principles already well established.

PROBLEMS OF TRANSPORTATION AND TREATMENT

We sailed for France with General Pershing, May 28, 1917. The first duty of the Medical Department was to provide ways and means for hospitalization of the sick and wounded. This was a long and tedious process, never fully realized, but in process of realization at the end of the war, when our program was for 500,000 beds. May 15, 1918, thirteen days before our First Division captured Cantigny, there were 30,187 hospital beds available. On the signing of the armistice (Nov. 11, 1918), we had available in France for an army of a mean total strength of nearly two millions, 261,403 beds, in 153 base hospitals, 66 camp hospitals and 12 convalescent camps. The total number of patients in hospital on that day was 193,448, of whom 94,405 were sick, and 99,043 wounded. The total number of beds in the home territory was 121,883, with 69,926 patients, or a grand total of 353,887 hospital beds in France and the United States, as against a maximum of 118,057 beds for the Union forces in the Civil War. Most of the large hospital centers in France, such as Allerey, Bazoilles, Toul, Mesves, Mars and Savenay, were made up of units of 1,000 bed hospitals, barrack type, with a crisis expansion of 2,000, so that the total bed capacity of the centers was ultimately to be from 10,000 to 40,000. One of the centers had 22,500 patients when the armistice was signed. Through the courtesy of the French authorities, many separate buildings were acquired, such as the *casernes* at the Toul center (15,000 beds) or the hotels at the Vichy center (10,000 beds). Hospital construction in France was done by our Corps of Engineers, who had even to cut the timber and saw the lumber.

Although the humanitarian element in evacuation of the wounded is subordinated to its military purpose, yet the wounded soldier's chances of recovery are better furthered by business efficiency and military promptitude in evacuation than by misdirected sentiment or wrong-headed philanthropy. The underlying military motive is kindlier than the ancient or Turkish plan of having no medical administration in campaign whatever, leaving the wounded to die in their tracks. There were physicians who complained that they were utilized as packing clerks at the front, but it is just this sort of administration which brings the wounded man safely into the hospital, with a clear statement of the nature of his injury. Evacuation on the Western Front was a complex and sometimes desperate matter, often hampered by lack of transportation facilities, by the impassable condition of roads boggy with mud or crowded with other vehicles, and by the generally torn up condition of the combat areas. It required the prompt mobilization of every kind of vehicle, such as ambulances, motor trucks, lorries and other rolling stock attached to the sanitary formations which move forward with the fighting divisions, as well as the establishment of evacuation hospitals and rest stations on the line of communications and of base hospitals and convalescent camps in the zone of the interior, with their own type of transportation, including ambulance service, hospital trains, hospital barges and hospital ships. In spite of delays in construction, we had, on Nov. 11, 1918, twenty-one hospital trains of sixteen coaches each, about sixty hospital barges, and some 7,375 ambulances of heavy and lighter type. Up to Nov. 11, 1918, 129,997 sick and wounded had been evacuated by our hospital trains, and 197,708 in the fifty trains lent by the French, while from the embarkation ports there were evacuated by ship to the United States 15,853 patients up to Nov. 11, 1918, and 83,642 up to March 1, 1919.

To the sanitary administration on the Western Front, in other words, to the military application of preventive medicine, was due our relatively small disease incidence as compared with earlier wars, and this in spite of the long period of exposure before our troops got into action. The management of the sick and wounded records, the services of epidemiology, laboratories, food inspection and food economics, sanitary inspection and venereal prophylaxis were of the highest order of efficiency, and with these services the names of Siler, Zinsser, Emerson, Young, Keyes, Walker, in the war zone, and of Reynolds, Howard, Chamberlain and Russell in the home zone, will always be associated. In spite of repeated cabling we never got all the personnel and supplies needed in crucial situations, which had to be met and eked out by robbing one organization to supply another, and by the self-sacrificing full-time and overtime service of operating surgeons, nurses and hospital personnel. Many hospital nurses worked from fourteen to eighteen hours daily for several weeks running. Some surgeons worked from forty-eight to seventy-two hours without sleep. One roentgenologist dropped unconscious by his machine after operating it

4. Brewer, G. E.: Monthly Bull., Chamber of Commerce, New York 19: 40-41, 1919.

for forty-eight hours. Litter-bearers were sometimes so exhausted that they could not lift their hands above their heads. Promotions recommended for deserving medical officers were held up indefinitely, and did not reach them overseas until the cessation of hostilities, when they were, in the Napoleonic phrase, too late.

RESULTS

So much for the means at our disposal. The results attained in hospital treatment were remarkable. Of the 2,039,329 men who reported in France, about 1,300,000 were combatant troops; and of these, twenty-eight divisions, or about 784,000 men, got into action. Our total casualties were 318,993, of which number 34,249 were killed in action, 50,714 died from disease, and 13,691 (6.11 per cent.) died from wounds out of 224,089 wounded, of whom 158,595, or 70.77 per cent., were returned to duty. We can best appreciate the advances made in wound treatment and the therapeutics of disease by comparing our results in hospital with those of the Civil War. Although our maximum total strength in the World War on Oct. 11, 1918 (3,551,447) was nearly four times greater than that of the Union forces on Jan. 1, 1863 (914,447), yet, covering the same relative period of time, 44,238 men (14.5 per thousand) were killed in action in the Civil War as against 34,249 (11.26 per thousand) of our troops in the World War; 246,712 (80.87 per thousand) wounded were treated in hospital in the Civil War, 224,089 (73.66 per thousand) in the World War; 31,978 (10.48 per thousand) died from wounds in the Civil War, 13,691 (4.5 per thousand) in the World War; 186,216 (61.04 per thousand) died from effects of diseases in the Civil War, and 50,714 (16.67 per thousand) in the World War. Thus, although the Union Army of the first two years of the Civil War was one-fourth the size of our mobilization in the World War, nearly 10,000 more men were killed outright in the Civil War, more than 22,000 more men were wounded, more than twice as many died from wounds in hospitals, and nearly four times as many died from the effects of disease.

As given by Lieut.-Gen. von Schjerning, the total losses of the German Army during the four years of the World War, with a mean average strength of 4,257,720, were 1,531,048 killed in battle, 4,211,269 wounded, and 155,013 died of disease out of 19,461,265 admissions to hospital. As given by General Sir John Goodwin, the total losses of the British army, exclusive of the Indian and African troops, were 569,143 killed in action, 170,509 died from wounds, 83,975 died from other causes, 1,025,808 wounded, and 143 missing. Including the Indian and African contingents, the total losses, including 929,812 deaths from all causes, 2,097,994 wounded and 3,467 missing, amounted to 3,051,273.

Judging from our own figures, and considering the terrible effects of heavy artillery and high-power explosives, our capacity to heal wounds has increased twofold and our ability to treat disease fourfold. We can form no judgments from the German figures, because they have not yet given the numbers who have died or recovered from battle wounds, while their figures of nearly twenty million admissions to hospital are not the same thing as the actual number of patients admitted. In ability to prevent disease we have made gigantic strides since the Civil War. Between Sept. 1, 1917, and May 2, 1919, we had 213 deaths from typhoid fever; had the Civil War rate obtained, we should have had 51,133 deaths, and had the Spanish-American War death rate obtained, 68,164. We had thirteen deaths from malarial fever in the World War; with the Civil War death rate, we should have had 13,591, and with the Spanish-American War rate, 11,317 deaths. In the World War we lost only forty-two men from dysentery; with the Civil War rate, we should have lost 63,898, and with the Spanish-American War rate, 6,382. Our mortality from tuberculosis in the World War was 1,220; with the Civil War death rate, it would have been 9,574. We lost only five men from smallpox in the World War, but with the Civil War death rate we should have lost 9,536. On the other hand, 41,747 soldiers died from pneumonia in the World War, while with the Civil War death rate this mortality would have been 38,962, and with the Spanish-American War death rate, 6,086. The high mortality in the World War is to be explained by the unusual malignancy of the pneumonias following the measles epidemic of 1917-1918 and the great influenza epidemic of 1918-1919. The most difficult problem facing both military and civil sanitarians is the prevention of the sputum-borne infections.

Our success in wound treatment was due to the high efficiency and promptitude of our surgical service in carrying out the Carrel-Dakin treatment and the method of wound excision with primary suture. The highest incidence of war wounds in our hospitals occurred during October, 1918, the period of the Argonne fighting, when 38.37 per cent. of admissions to hospital and 41.52 per cent. of deaths were from gunshot and other wounds. Our percentages of admissions and deaths from gunshot wounds, during our entire six months of fighting, were 33.42 and 54.29, respectively. Wounds from small arms and those incurred during air attacks had a higher case mortality than wounds from missiles, while recovery was the rule in cases of gassing. The case mortality from gunshot wounds was 8.26 per cent., that from gassing 1.73 per cent. Wounds from missiles were most frequent in the lower and upper extremities and the chest, being sustained in going over the top. The percentages of admissions and deaths from wounds of the lower extremities were about equal.

More men were killed outright through abdominal and pelvic injuries than through any other. More than twice as many were killed through head injuries as were admitted to hospital, and nearly seven times as many through wounds of the spine, abdomen or pelvis. All this is to be explained by the terrible mangling of the body from high explosive shells and projectiles of large caliber. Wounds of the spleen, intestine, pancreas, stomach, kidney, liver, esophagus and bladder show the highest case mortality, in the order named, both in the World War and in the Civil War. Men thus wounded seldom recovered, because the destruction of these viscera was beyond the reach of surgery; but although visceral wounds were almost hopeless in both wars, we have astonishing evidences of improvement in the treatment of gunshot fractures in the World War.

The comparative percentages of case mortalities in the Civil War and the World War are for gunshot fractures of the tibia and fibula as 26.19 to 13.74; of the humerus as 20.70 to 9.04; of the clavicle and scapula as 13.90 to 6.98; of the radius and ulna as 9.40 to 3.98; of the wrist as 12.10 to 1.80, and of the foot as 7.70 to 2.77.

CASUALTIES

The number of casualties among our medical officers in France from July 1, 1917, to March 13, 1919, was 442, and of these, 46 were killed in action, 4 were lost at sea, 212 were wounded, 22 died of wounds, 101 died of disease, 9 died of accidents, and 7 were reported missing in action. While our infantry sustained the greatest number of casualties, namely, 215.66 per thousand wounded, and 12.77 per thousand killed in action, the Medical Corps comes sixth on the roll of honor, following the artillery with 25.67 per thousand wounded in action and 1.62 per thousand killed. That the number of killed and wounded in our Medical Corps (258) is more than one half of its total casualties (442), and that the number who died from disease (101) is almost one fourth, is sufficient evidence of the readiness with which our medical officers exposed themselves to fire and ran the risks of infection in hospital. The first American soldier who was killed in France after our entry into the war was a medical officer, Lieut. William T. Fitzsimons, whose life was lost during an air attack on the base hospital group at Dannes Camiers, Sept. 4, 1917, and in honor of whom our Army General Hospital at Denver has just been named the Fitzsimons General Hospital.

PREVENTION AND TREATMENT IN HOME TERRITORY

In the home territory, excellent administrative work was done from the start in the all-important matter of raising personnel and supplies, and in providing adequate hospitalization and sanitation for our thirty-two army camps, some of which were great communities of between 40,000 and 50,000 population. The purchase of vast quantities of supplies, some of which had to be manufactured on a large scale for the first time in this country, the distribution and shipping of such supplies through supply depots, and the financial accounting for these was a large achievement, which will form an important chapter of our Medical History of the War. Some of the camps were badly chosen as to site, and the base hospitals in many of these camps were the last structures to be put up, so that division surgeons and the commanding officers of these camp hospitals had an up-hill fight of it during the measles and meningitis epidemics of the severe winter of 1917-1918, and even more arduous experiences with the epidemic of Spanish influenza of 1918-1919. In this war, we first learned to go after the sources of disease instead of waiting for it, through a gradual realization of the fact that the individual, particularly the individual carrier, is more dangerous than the disease itself. The isolation of contacts and suspects, as well as of carriers, in such communicable diseases as measles, meningitis and influenza, although not a new feature in military or civil sanitation, was first carried out on a large scale in this war.

The Division of Sanitation in the Surgeon-General's Office had work of the most varied kind, from the extermination of mosquitoes to the preparation of our statistical records. This part of our service profited much by the experience and wise counsel of such experts as Welch, Vaughan, Zinsser and Emerson, and it is no exaggeration to say that those who served with us acquired fresh ideals of group sanitation and group medicine through actual contact and experience with the hygienic requirements of large military communities, under constant discipline and of uniform type. Food inspection and food economics were administered from the point of view of modern nutritional science by expert metabolists. The administration of our surgical service was greatly forwarded by the work of such men as Charles and William Mayo, Finney, Brackett, Cushing, Goldthwait, Crile and Brewer; our medical service by Thayer, Janeway, Longcope and Conner; the service of ophthalmology by Greenwood, deSchweinitz, Wilmer and Black; the service of otolaryngology by MacKernon, Mosher and Richardson. Reconstruction, gas defense, the physiologic requirements in aviation and the psychologic examination of drafted men come up as entirely new subjects in military administration. Although the orthopedic or instrumental phase of reconstructional surgery of disabled soldiers had been blocked out in Germany ten years before the war and practiced here and there in civil life, the program was soon expanded to include reeducation, or the vocational training of the disabled, including the blind and the deaf; rehabilitation, or the social adjustment of the disabled to suitable employment, and the education of the public to a proper attitude toward the crippled soldier, as voiced in the utterance of Michael Dowling, a reconstructed civilian, at the session of the American Medical Association in 1918:

> Every community and every family ought to see to it that every other member of the family pays no attention to a hunchback, never looks at a man with clubfoot as he walks down the street, especially never looks at his deformity, and never looks at a man with a peg leg or with an empty coat sleeve. It should be taught in the schools. It should be preached from the pulpits.

With this phase of administration we associate the names of Frank Billings, Richardson and Wood.

The application of the newer findings of psychology, neurology and psychiatry to the examination of drafted men by Salmon, Bailey and Yerkes demonstrated the existence in our recent population of large numbers of people with weak, undeveloped or disordered minds. Mental tests of children had been employed in the schools, but they were first tried out on adults in mass during our recent mobilization. Mental defectives will be bad risks in any future army. The soldier of the future must be of active mind as well as body. His wits and senses must be something better than a baseball player's. Under the recent program our prospective army will be a school in which the mind and the senses are trained to coordination through vocational adaptation to suitable employments. Although we were engaged less than twenty months in the war, the scientific achievement of our medical officers in that short time was considerable. What was accomplished reflects the highest credit on our American profession. Through the labors of MacCallum, Cole, Dochez, Avery, Bull, Miller, Capps and Irons, the pneumonias consequent upon different infections were studied pathologically and typed as to bacilli. *Streptococcus hemolyticus* infection was investigated by Avery, Kinsella and Swift; the surgical aspect of the empyemas by Dunham, Bell, Graham, Kinsella and Stevens, of the Empyema Commission of the U. S. Army; measles by Sellards, Bigelow and Fox; meningitis by Flexner and Herrick; influenza by Cole, Avery and Jacobs; parotitis by Sailer; bronchopneumonia by Miller; tuberculosis by Bushnell; anthrax by Pearce; erysipelas by Kanavel; arthritis by Pemberton, and parasitic infections by Kofoid. The hypothesis that trench fever is a louse-borne infection, which originated with the British commission under General Sir David Bruce, was carried to successful demonstration by the American commission under Richard P. Strong.

Generally speaking, the prevention and treatment of disease was of greatest moment in our camps in the home territory, while the transportation and treatment of the wounded occupied us mainly in the war zone. I have already spoken of the relation of the concept of transportability to successful wound treatment. On the Western Front, this was vastly forwarded by the adoption of the principle of continuous extension by means of the Thomas and Hodgen splints and the Balkan frame. Of outstanding practical importance was the work of Blake, Goldthwaite, Osgood, Allison and Keller on gunshot fractures and the standardization of splints. My time limits prevent more than passing mention of the brilliant work of Cannon, Porter and Crile on wound shock; of Cushing on brain surgery; of Hayes, Hutchinson, Powers and Blair on maxillofacial surgery; of Yates and Lilienthal on surgery of the chest; of Salmon on war neuroses; of Warthin, Winternitz and Underhill on the pathology of war gas poisoning.

EDUCATION AND TRAINING

On the score of training, instruction was given to volunteer medical officers in all branches of military medicine and surgery at the Medical Officers' Training Camps in this country, at the Rockefeller Institute, at the Army School at Langres, in the special courses instituted by the administrative divisions of the Surgeon-General's Office in our larger cities, and through the generous cooperation of such great leaders as Sir Robert Jones in England and Depage at La Panne (Belgium). Our Medical Officers' Training Camps brought out some defects in medical education in this country and, on the administrative side, the most valuable lessons which our army has learned from the European war have been in this matter of education and training. From the great training areas in France came the idea of training in corps areas in this country; from the training camps in this country we have learned that medicomilitary or other training should not be too generalized as to subjects or too extended as to time, but should be concentrated on particulars of immediate practical importance. From the useful and valuable lists of the qualifications of civilian practitioners furnished us by the American Medical Association and the Council of National Defense during the mobilization of the Medical Reserve Corps, we have learned the value of cooperation with the medical profession in relation to any future mobilization for war. The expensive and valuable scientific work done for the Army by the Rockefeller Institute, the Carnegie Institution of Washington, the National Research Council and the Public Health Service is a guarantee of the cooperation and team-work which the government may hope for in any future emergency.

PROGRAM FOR THE FUTURE

I have now endeavored to tell you, in brief space, what the Army Medical Department and the medical profession of the country have accomplished in the recent war. A word as to the future. It is the purpose of our army establishment to make its future program of training educational in the broadest sense. Modern armies require not only fighting men but also skilled mechanics, artisans and craftsmen of all kinds. In future, the Army proposes to train such men within the ranks. This is one of the most important things that has come out of our experience in the European war. Hereafter, the enlisted man will have full opportunity to learn a trade and to join the ranks of skilled workers in the world. If he belongs to the unskilled classes, when he leaves the Army, it will be his own fault. If he accepts his Army training in the right spirit, he will acquire a definite means of acquiring a livelihood, of supporting a family and of becoming a respectable and useful member of society. As blocked out on the Army job sheets, this training will be intensive and scientific, not the haphazard and ill-considered training which the journeyman plumber's or steamfitter's apprentice too frequently gets from the boss. In like manner, it is incumbent on the Medical Department not merely to institute educational training of enlisted men as clinical clerks and surgical dressers in the hospital, but also to train specialists among our commissioned personnel in all the important branches of scientific medicine. In the medical establishment of the British Army, steps have already been taken in this direction by the appointment of whole-time chiefs of surgery and pathology. In the contemplated enlargement of the Walter Reed Hospital, we shall have an establishment at which this program can be carried out by our Army Medical School in full measure. The older, archaic army of the small, scattered and isolated posts disappeared with the European war. A newer army, of large corps area, has taken its place. I think you will admit that a nation of more than a hundred million people needs such an army, and that its medical department should have educational facilities at least comparable with those of Netley and Val de Grâce.

In pleading the case of American liberties before the English Parliament in 1775, Edmund Burke said:

> It is the love of the people; it is their attachment to their government, from the sense of the deep stake which they have in such a glorious institution, which gives you your army and your navy and infuses into both that liberal obedience, without which your army would be a base rabble, and your navy nothing but rotten timbers.

This great idea has been borne in upon us through our experience in the European war. Our reasoning in regard to training and education is the same. We came out of the people; we went to the people for our personnel, and we want to do something in return for their sons while they are with us. We of the Medical Corps came out of the medical profession; it is our desire to keep in closest touch with the profession, working together, in the future as in the past, for the common good of our country. I ask you to consider, for a moment, the history of our Medical Corps in its relation to the American profession.

CONCLUSION

William Beaumont started experimental physiology in this country, Woodward photomicrography, Sternberg bacteriology, Billings advanced hospital construction, medical bibliography, medical statistics and the science of medical librarianship. While on duty in the Army during the Civil War, Weir Mitchell developed the science of the peripheral nerve lesions, which was the foundation of his work in neurology. Even your great anatomist, Joseph Leidy, did valuable postmortem work in our military hospitals during this period. After working under Welch at Johns Hopkins, Walter Reed, with his associates in Cuba, demonstrated the transmission of yellow fever by mosquitos, and (with Vaughan and Shakespeare) of typhoid fever by flies. Gorgas then cleaned up Havana and Panama, and made the Isthmus habitable. Russell introduced preventive vaccination against typhoid fever on a large scale; Hoff vaccinated the Porto Rican population

and rid the island of smallpox and leprosy. In tropical medicine, I need only mention the work of Ashford on hookworm infection and tropical sprue, Craig on malarial fever and the parasitic amebas, Ashburn and Craig on filaria and dengue, Vedder on beriberi and amebic dysentery, Chamberlain on hookworm infection and beriberi, Gentry and Ferenbaugh on Malta fever and Whitmore on dysentery and yellow fever.

Since the close of the war, there has been apparent a certain feeling of bitterness against the Army. It is due in part to losses sustained, whether of relatives killed in battle or of income or of business advantages, to disappointments and disillusions, to the fact that modern warfare is a drier, more businesslike and less romantic enterprise than the wars of old, and to the natural distaste of average civilized humanity for a thing so disagreeable and troublesome as war. In general, it is a symptom of what Cushing calls "war weariness;" yet I myself belief that it is more common among those whose lot it was to chafe at the leash while doing their bit in the home territory than among those who served with us in France. Pacifists maintain that wars are avoidable things, by which they probably mean that civilized man, i. e., man tamed and domesticated, would like to avoid them if he could. The European war resembled the great epidemics of the middle ages, which came suddenly down upon humanity, they knew not whence or where, with terrible death-dealing force. Epidemics and wars, as Crookshank points out, are not of simple, but of multiple or complex causation. The epidemic of influenza that followed this war was in reality far more destructive; yet who has succeeded in explaining, or even in exploring its causation? Crookshank believes that the remote causes of this epidemic are beyond human calculation. Wars, then, may some day perhaps be prevented, when there exist statesmen with genius and ability sufficient to prevent them. The business of armies, however, is to maintain peace in time of peace and to be ready for war whenever the defense of their country requires it. For the "never again" school there is only one answer, namely, that defenseless nations, like defenseless individuals, invite not only attack but also invasion of their territory. As Crookshank puts it, "until war and pestilence are abolished, we must initiate schemes of defense." To guarantee the defense of a modern nation, there is only one means, namely, discipline and training. In the address I quoted at the beginning, Pericles counsels the Athenians who survived the first year of the Peloponnesian War to "pray for a safer fortune," but to be no less venturously minded against the foe; not weighing the profit . . . but contemplating the power of Athens, in her constant activity: and thereby becoming enamored of her. And when she shall appear great to you, consider then that her glories were purchased by valiant men, and by men who learned their duty; by men who were sensible of dishonor when they came to act; by such men as, though they failed in their attempt, yet would not be wanting to the city with their virtue, but made to it a most honorable contribution. . . . Be zealous, therefore, to emulate them, and judging that happiness is freedom and freedom is valor, be forward to encounter the dangers of war."

It was in this spirit that the youth of our nation met the enemy, and you may read of what they did in the report rendered to the secretary af war by their commander, General Pershing.

I ask that, as members of the medical profession, you will give to the Medical Department of the Army in time of peace the same loyal support and appreciation which you have rendered, and which we may count on you to render, in time of war.

THE CEREBROSPINAL FLUID IN TREATED SYPHILIS*

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In the routine study of cases in the syphilis department of the Johns Hopkins Hospital, lumbar puncture is regarded as especially indicated in three groups of patients: (1) those presenting on admission evidence suggestive of or permitting a diagnosis of neurosyphilis; (2) all other patients accepted for treatment, and (3) treated patients about to be discharged as presumably cured. The first and second groups represent practically all cases accepted for registration in the clinic. They are considered separately because in the one instance (Group 1) spinal fluid examination assists in differential diagnosis and serves as a check on the clinical impression; and in the other (Group 2), it is employed as a routine method of detecting or ruling out asymptomatic neurosyphilis. While, in Group 1, puncture is performed on admission for obvious reasons, it is not employed in Group 2 until after one or more courses of treatment have been administered. Especially in early syphilis, we deem it unjustifiable to delay treatment even the few days necessary for spinal puncture in an ambulatory clinic.

The present study is concerned with the second group of patients (routine punctures). The results obtained in the first group are so generally known as to need no further comment, while those of the "discharged as cured" group properly belong to a discussion of the treatment of syphilis.

The factors leading to invasion of the central nervous system and the development of clinical neurosyphilis are not as yet clearly understood. The existence of a neurotropic strain of *Spirochaeta pallida* seems fairly well demonstrated by clinical evidence and animal experimentation. Examination of the spinal fluid in early untreated primary and secondary syphilis has shown [1] from 30 to 50 per cent. of abnormalities, consisting in general of pleocytosis and increased protein content, more rarely a positive Wassermann reaction and abnormal colloidal tests. It may be assumed from this evidence that in many cases of syphilis, and in most of those who later develop neurosyphilis, invasion of the nervous tissue takes place early in the course of the disease, at the time of the first period of generalization.

It is probably true that in about half of all cases of syphilis, no such invasion takes place. The incidence of clinical neurosyphilis in untreated or badly treated patients is generally considered to be about 25 per cent. Some of the patients invaded early, therefore, are able spontaneously to deal with their neurologic infection.

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* From the Syphilis Department of the Medical Clinic, Johns Hopkins Hospital.

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Furthermore, it is undoubtedly true that a few patients in whom early invasion did not take place later fall victims to neurosyphilis, thus rendering necessary the assumption of nervous invasion at a second or later period of generalization of the disease. The most important point with reference to the development of neurosyphilis, judging from past experience, is that adequate intensive treatment reduces its incidence very markedly. Prior to the introduction of the arsphenamins, the statistics of various observers indicated that only about 5 per cent. of well treated patients, as compared with 25 per cent. of untreated or badly treated patients, developed paresis, tabes or cerebrospinal syphilis. Since the introduction of the much more intensive treatment now generally employed, not enough time has elapsed to provide adequate statistics. In this clinic, however, the impression prevails that less than 1 per cent. of well treated patients develop neurosyphilis.

The present study was undertaken with the following points in view: (1) To demonstrate the effects of treatment on the early minor abnormalities noted in the spinal fluid by other observers; (2) the possible association of asymptomatic neurosyphilis with other manifestations of the disease; (3) differences in the racial incidence of unsuspected neurosyphilis between whites and negroes, and (4) the possibility of predicting its presence by means of certain generally unappreciated minor signs and symptoms.

The material consists of 642 patients in all stages of the disease. Each patient was examined carefully from the neurologic as well as the medical standpoint. Every case in which a clinical diagnosis of neurosyphilis was permissible has been excluded. In most instances the tests performed on the spinal fluid included cell count, the Pandy and Ross-Jones tests for globulin, Wassermann reaction in quantities ranging from 0.1 to 1.0 c.c., colloidal gold and, in the last 250 cases, colloidal mastic. In a few cases the cell count and colloidal tests are lacking. In order to save space, the results are thus classified: *Positive* includes every case in which the Wassermann was positive in the fluid in any dilution, in most of which, of course, the other tests were also positive. *Doubtful* includes those cases showing slight fixation with large quantities of fluid, together with a slight pleocytosis or a change in the colloidal gold curve not higher than "syphilitic zone," or, in the presence of a completely negative Wassermann reaction, pleocytosis of more than 10 cells with a positive globulin reaction, or abnormal colloidal tests (the majority of these cases would have been in the positive group if puncture had been performed before treatment, as will appear below). *Negative* includes those cases in which all tests, with the exception of the globulin reaction, were definitely negative. I do not lay as much stress on the presence of a small amount of globulin as does Wile,[1] for example, since I am convinced that it can be found in small quantities in normal fluids.

In Table 1 will be found the results of spinal fluid examinations in relation to the diagnosis made on admission. In practically every case the patient had received at least one course of six doses of arsphenamin, followed by several weeks of mercury by inunction with or without potassium iodid. Many patients had received more treatment. Three points of interest appear from this arrangement of the data. If primary syphilis can be well treated before the appearance of secondary manifestations, only a very small proportion (2.9 per cent.) of cases will show any abnormalities in the spinal fluid after treatment. Secondly, after secondary manifestations have appeared and the disease is presumably well intrenched, about the same relative number of patients show spinal fluid abnormalities no matter how long the disease has existed, or by what lesions it manifests itself. Thus, a positive result is obtained with the same frequency in patients whose original complaint, for example, was an early secondary rash, a late bone lesion, or cardiovascular syphilis. (This does not, of course, deny the frequent association of cardiovascular syphilis with clinical neurosyphilis, especially tabes.) No evidence is to be found of the more frequent association of asymptomatic neurosyphilis with one group of lesions than with another.

TABLE 1.—RESULTS OF SPINAL FLUID EXAMINATIONS IN RELATION TO DIAGNOSIS ON ADMISSION

Diagnosis: Syphilis	Total Cases	Cerebrospinal Fluid			Percentage Abnormal
		Positive	Doubtful	Negative	
Primary	34	1	..	33	2.9
Secondary, early	130	15	3	112	13.8
Secondary, recurrent	20	3	..	17	15.0
Secondary, late	7	1	..	6	14.2
Tertiary, skin and mucous membrane lesions	47	4	2	41	12.7
Tertiary, bone lesions	45	3	3	39	13.3
Tertiary, cardiovascular	47	6	..	41	12.7
Tertiary, visceral	21	3	1	17	19.0
Congenital, late	21	1	1	19	9.5
Wassermann, early	35	4	1	30	14.2
Wassermann, late	155	18	8	129	16.7
Latent, early	25	..	1	24	4.0
Latent, late	55	1	2	52	5.6
Total	642	60	22	560	12.7

The reverse is evident in the two groups of cases classified as latent,[2] in which the percentage of positive results is much lower than in any other group except the primary cases. This is probably to be interpreted to mean that the majority of such patients with neurosyphilis have already developed clinical signs or symptoms by the time they reach our hands, leaving only a few in whom the neurologic involvement is asymptomatic. In general, therefore, asymptomatic neurosyphilis is more common in syphilitics presenting some physical or serologic evidence of their disease than in early primary syphilis, in which such manifestations may be rapidly suppressed, or in latent syphilis, in which they have disappeared spontaneously or because of treatment.

Finally, only 12.7 per cent. of these treated cases showed spinal fluid abnormalities, as compared with the 30 to 50 per cent. of untreated early cases of other authors. Thus treatment, even though incomplete, does cause at least half of the early abnormalities to disappear. In some of the remaining cases, however, the effect of such incomplete treatment is to intensify the abnormalities already present, since 9.3 per cent. of this group of patients showed a positive Wassermann reaction in the fluid, as compared with 1 to 4 per cent. in early untreated syphilis.

As I have explained above, in the majority of patients in this series, puncture was performed at the end of

2. A word of explanation regarding our diagnostic nomenclature is perhaps necessary. All terms are self explanatory except "syphilis Wassermann" and "syphilis latent." In the former we include those cases whose only physical manifestation of the disease is a positive Wassermann test in the blood (excepting only general glandular enlargement). In the latter group fall those cases in which no manifestation can be demonstrated and in which the blood Wassermann test is negative, a diagnosis of syphilis being permissible on the basis of personal or family history. In both groups the division into early and late is an arbitrary one of time: the early cases of less than two years' duration, the late cases of more than two years. In many of the latent cases some treatment had been given, always, however, insufficient, before they reached us.

one or two courses of arsphenamin (in general from two to six months after the beginning of treatment). Judging from the favorable serologic results obtained in the positive cases by further routine antisyphilitic treatment, the percentage of positive results would be materially reduced if punctures were delayed until after four or more courses of treatment were given. The value of intensive routine treatment as a prophylaxis against neurosyphilis is thus fully illustrated.

It is interesting to note, parenthetically, that of twenty-one patients with late hereditary syphilis (all were over 10 years of age, most of them adults) only two, or 9.5 per cent., show abnormal spinal fluids. This is in marked contrast to the results obtained [3] in younger patients, about one third of whom show clinical or serologic evidence of neurosyphilis. The obvious explanation appears to be that congenital neurosyphilis claims its victims early, and that comparatively few of them reach adult life.

If the theory of the genesis of neurosyphilis is correct, that invasion of the nervous tissue usually takes place at the first period of generalization of the disease, it should be true that if examination of the fluid after this period yields negative results, later repeated punctures should also be negative, provided that in the interim no fresh generalization has occurred. Such a generalization might be detectable by recurrent secondary lesions or a recurrent positive Wassermann reaction in the blood. In more than fifty of these negative cases in which the spinal fluid has been reexamined, the second and later tests have all been negative with the exception of two. In one of these a second generalization, manifested by a recurrent secondary rash, had occurred during a lapse in treatment; in the other, the original lesion was a gummatous periostitis of the inner cranial table, and meningeal involvement apparently occurred by direct extension. This question is not yet settled, however, and further study is greatly needed.

The racial difference in asymptomatic neurosyphilis is well brought out by the following figures: Of 377 white patients, sixty, or 15.9 per cent., had abnormal spinal fluids. Of 265 colored patients, only twenty-two, or 8.3 per cent., showed serologic abnormalities. Thus, asymptomatic neurosyphilis is approximately twice as frequent in the white as in the colored race. This is in accord with the figures given by Zimmermann [4] from this clinic for paresis, tabes and cerebrospinal syphilis, which are much more common in white patients. The basis for this racial immunity from neurosyphilis is not clear.

An analysis of the positive results obtained in this study showed that in many cases there were minor symptoms or signs of value in predicting the occurrence of positive spinal fluid findings. These signs may be divided into three groups: (1) a persistently positive blood Wassermann reaction; (2) minor pupillary abnormalities without other neurologic signs, and (3) certain symptoms of which the patient complained, namely, headache, nervousness, lassitude and "rheumatism," or vague generalized neuralgic pains. The material was reviewed from this standpoint, with results of considerable interest, as may be seen in Table 2.

In the first group, with persistently positive Wassermann reactions, are included all cases of early primary or secondary syphilis in which a negative Wassermann reaction was not obtained at the end of the first course of six doses of arsphenamin (in our experience, a negative test can be obtained in at least 90 per cent. of such cases), and those cases of late syphilis of more than a year's duration (excluding hereditary syphilis) in which the Wassermann reaction was still positive at the end of two or more courses of arsphenamin, with periods of mercury by inunction after each course. Of fifty-two such cases the spinal fluid was outspokenly positive in twelve and doubtful in two, an incidence of 26.9 per cent. of abnormalities. These figures agree closely with those of Stokes and Busman,[5] who found

TABLE 2.—MINOR SYMPTOMS POINTING TO POSITIVE SPINAL FLUID FINDINGS

Reason for Puncture	Total Cases	Cerebrospinal Fluid			Percentage Abnormal
		Positive	Doubtful	Negative	
1. Persistently positive blood Wassermann	52	12	2	38	26.9
2. Minor pupillary abnormalities	54	9	4	41	24.1
3. Symptoms: headache, lassitude, rheumatism, nervousness	67	19	3	45	32.7
Total of Groups 1-3	173	40	9	124	28.3
4. Routine only	469	20	13	436	7.03

30 per cent. of seventy Wassermann-fast cases to show clinical or serologic evidence of neurosyphilis. In none of my cases could any clinical evidence of neurosyphilis be detected.

The question of the relation of pupillary abnormalities to neurosyphilis has always been one of interest. In this series only slight changes, consisting in the main of myosis, mydriasis, irregularities not due to old iritis, slight anisocoria, or a sluggish reaction to light of one or both pupils, have been included. All cases showing any other neurologic signs, such as reflex disturbances or tremor, have been discarded. Such slight pupillary abnormalities have been found in our own clinic and in others in all stages of syphilis, but are much more common late in the disease. There were nine frankly positive and four doubtful spinal fluid examinations in fifty-four such cases, an incidence of 24.1 per cent.

The most striking group, however, comprises those cases in which the symptoms of headache, nervousness, lassitude or "rheumatism" were complained of. Often these complaints, especially the latter three, were persistent in spite of treatment. The patients with headache, on the other hand, were often brought to the clinic by their complaint, which was much ameliorated or entirely dissipated by the treatment given before spinal puncture. Needless to say, in this group of cases as in the others, any patient showing demonstrable neurologic abnormalities was rigorously excluded. There were sixty-seven cases with such complaints, in nineteen of which positive, in three doubtful, results were obtained in the cerebrospinal fluid, an incidence of 32.7 per cent.

If these three groups of cases are considered as a whole, we find that of the total 173 patients showing these minor signs, the spinal fluid was positive in forty and doubtful in nine, an abnormality incidence of 28.3 per cent. Furthermore, if these groups are subtracted from the total number, leaving 469 cases in which puncture was performed solely as a routine, since

3. Jeans, P. C.: Cerebrospinal Involvement in Hereditary Syphilis, Am. J. Dis. Child. **18**: 173 (Sept.) 1919.

4. Zimmermann, E. L.: A Racial Study of Syphilis in Whites and Negroes, to be published.

5. Stokes, J. H., and Busman, G. J.: A Clinical Study of Wassermann Fast Syphilis, with Special Reference to Prognosis and Treatment, Am. J. M. Sc. **140**: 658 (Nov.) 1920.

absolutely no sign or symptom pointing to the central nervous system could be detected, only 7.03 per cent. of the cases showed serologic abnormalities in the fluid (twenty positive, thirteen doubtful).

This indicates that asymptomatic neurosyphilis is usually asymptomatic only so far as concerns the grosser and more obvious neurologic changes. As definite minor diagnostic aids must be regarded a persistently positive blood Wassermann reaction, slight pupillary abnormalities, and the vague symptoms enumerated above. In the absence of any one of these points, the probability of the existence of neurosyphilis in well treated cases is small—in this series, seven cases per hundred.

No attempt has been made to predict the type of clinical neurosyphilis which these patients may develop. It is probably true that some of them, at least, remain clinically well in spite of the spinal fluid changes. In the large majority of such cases, in which the spinal fluid findings constitute the only evidence of central nervous system damage, extended and intensive antisyphilitic treatment, often without the aid of intraspinal treatment, has been successful in reducing the blood and spinal fluid serology to normal and keeping it so. In a few cases it has been necessary to employ intraspinal treatment. Only one of the patients included in this series has so far developed clinical manifestations of neurosyphilis, in this instance general paresis.

The incidence of clinical neurosyphilis in the Syphilis Clinic of the Johns Hopkins Hospital is, for the last three years, about 8 per cent. This includes paresis, tabes, cerebral vascular insults, meningeal syphilis, cranial nerve palsies, etc. If to this quota is added the larger class of asymptomatic cases, as developed in this paper, it is apparent that more than 20 per cent. of all our cases are, or lacking adequate treatment are probably destined to become, outspokenly neurosyphilitic. When this stage of the disease is reached, clinical relief is often difficult, cure is frequently impossible, and the unfortunate patient becomes a charge on society.

The inference is so plain that it seems hardly necessary to stress it again. Routine examination of the spinal fluid is an absolute essential to the intelligent treatment of syphilis. It should be carried out preferably after some treatment has been administered, rather than beforehand, because delay in starting treatment is often unjustifiable, and because more definite information regarding the graver abnormalities is then available. Spinal puncture should be repeated at least once before discharge, preferably more often. If this plan is universally adopted by all syphilologists, the treatment of neurosyphilis may be begun in the very incipience of syphilis itself, when favorable results may be more easily attained than after the appearance of somatic or psychic alterations in the nervous system.

SUMMARY

1. The cerebrospinal fluid of 642 syphilitic patients in all stages of the disease, but without demonstrable physical evidence of neurosyphilis of any type, has been examined after the administration of from two to six months of antisyphilitic treatment.

2. Of thirty-four patients with primary syphilis in whom treatment was begun before the appearance of secondary symptoms, only one (2.9 per cent.) showed an abnormal spinal fluid.

3. After the appearance of secondary symptoms, the incidence of abnormal spinal fluid findings was about the same (from 12 to 15 per cent.), no matter how long the disease had existed, or by what lesions it was apparent.

4. Only 12.7 per cent. of these 642 patients showed spinal fluid abnormalities, showing that the amount of treatment administered had been successful in clearing up at least half of the early changes noted by other workers in untreated cases.

5. Asymptomatic neurosyphilis is approximately twice as frequent in white as in colored patients.

6. As minor signs of value in predicting the probability of neurosyphilis are a persistently positive blood Wassermann reaction after treatment, slight pupillary abnormalities, and certain complaints of the patient, namely, headache, nervousness, lassitude and generalized neuralgic pains. Of 173 patients who showed such signs, the spinal fluid was abnormal in forty-nine, or 28.3 per cent. On the other hand, of 469 patients in whom neither these nor other more serious neurologic damage was demonstrable, only thirty-three, or 7.03 per cent., showed abnormal spinal fluids.

7. In general, the serologic evidence of asymptomatic neurosyphilis can be caused to disappear by prolonged, intensive, routine antisyphilitic treatment.

8. In the Syphilis Department of the Johns Hopkins Hospital, more than 20 per cent. of all patients are clinically, or because of the serologic evidence, potentially outspoken neurosyphilitics.

CONCLUSION

Study of the spinal fluid should be carried out as a routine in all syphilitic patients, as an essential to intelligent treatment. Spinal puncture should be performed after the first or second course of arsphenamin, and should be repeated at least once before the patient is discharged as presumably cured.

If this is done in every case of syphilis, and treatment intelligently administered according to the results obtained, the incidence of clinical neurosyphilis may be reduced to an absolute minimum.

316 Professional Building.

THE INTRAVENOUS USE OF CORPUS LUTEUM EXTRACT IN NAUSEA OF PREGNANCY

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In 1915 I first began the use of corpus luteum extract by hypodermic injection, in the treatment of the nausea of pregnancy. Its use was based on the theory that every woman, during the period of sexual activity, is constantly absorbing corpus luteum. Before the corpus luteum of one menstruation is entirely disposed of, another appears to take its place. With the onset of pregnancy, this absorption ceases. The corpus luteum of pregnancy constantly increases in size, until it reaches its acme about the third month. From this time on, it is gradually absorbed. The nausea of pregnancy, beginning during the period of nonabsorption, disappears about the time that the corpus luteum begins to decrease in size. Is it not reasonable to assume that this is not coincidence, but cause and effect, and that the corpus luteum plays an important part in relation to the nausea?

The results of this method of administration have already been given.[1] Preparations of corpus luteum available are: (1) a compressed tablet, containing about 5 grains of the dried substance; (2) powdered extract, and (3) ampules for hypodermic administration, containing 0.2 gm. of the dried substance in solution in 1 c.c. of physiologic sodium chlorid solution.

METHOD OF ADMINISTRATION

Corpus luteum may be administered (1) by mouth; (2) by subcutaneous injection; (3) by deep intramuscular injection, or (4) by intravenous injection.

1. Administration by mouth, using either the tablets or the powder, leaves much to be desired. The substance is affected by oxidation on exposure to the air; it is radically changed by the process of digestion, and often causes considerable nausea and other gastric disturbance. The good results obtained are far less striking than by hypodermic injection.

2. Subcutaneous injection is mentioned only to be condemned. Any animal extract given superficially under the skin causes considerable pain, local reaction and often local suppuration.

3. Deep intramuscular injection is much more desirable. The choice of location is the deltoid muscle, and the injection is given deeply into the muscle. The needle should be perpendicular to the skin surface, and not inclined at an angle, as is usual in ordinary injections. Whatever site is chosen, the needle must be long enough to penetrate through the superficial fat, into the muscle. This method has given about 80 per cent. of successful results, but has the slight objection that there is often some muscular stiffness and slight local reaction, but nothing of any moment. In several thousand injections we have not yet seen a case of suppuration.

4. Intravenous injection should be, and I believe is, the ideal method of administration. At first there was some doubt as to the sterility of the solution in ampules, but very extensive experience with the intramuscular injection, without a single case of suppuration, finally gave us confidence enough to warrant the trial of intravenous injection. For the last two years my assistants and myself have used no other method. Our experience includes ambulatory dispensary and office patients and bedridden patients in the hospital and in private homes.

Reasons for Intravenous Injection.—1. The material used is carried directly into the circulation, giving the most rapid absorption possible. 2. It is possible and advisable to use a considerably larger dose (two or three ampules) than is possible with the intramuscular injection, in which more than 1 c.c. causes considerable local reaction. 3. Each ampule contains only 0.2 gm. of the extract, and in this way the necessary total quantity can be introduced more easily and quickly. 4. There is no local reaction or discomfort of any kind after the injection. 5. Intravenous administration often controls the vomiting promptly, in cases in which intramuscular use has failed.

Method of Administration.—This does not differ materially from the ordinary intravenous injection:

1. A glass hypodermic syringe of 3 c.c. capacity is prepared by boiling, and cooled. Alcohol is not desirable as an antiseptic for the syringe or needle.

2. The ampules to be used are washed and rubbed thoroughly with an alcohol pad.

3. The ampules are filed at the neck and broken in sterile gauze, and the contents drawn into the syringe.

4. A tourniquet is placed on the patient's arm, above the elbow.

5. When the veins become prominent, at the bend of the elbow, a suitable one is chosen and the skin over it is painted with 7 per cent. tincture of iodin.

6. The needle, attached to the filled syringe, is passed through the skin into the vein.

7. As a test, the plunger of the syringe is pulled slightly back, and if the needle is in the vein, blood will appear in the syringe.

8. The tourniquet is loosened, and the contents of the syringe slowly injected, taking about fifteen seconds to each cubic centemeter.

9. When the syringe is empty, the needle is withdrawn. The small puncture requires no dressing.

10. The same vein can be used repeatedly.

11. In stout women it is often difficult to locate any vein at the elbow. In such cases, the veins in the back of the hand are usually the most accessible.

Dosage.—This will vary, depending on the type of case under treatment. Ambulatory patients who can come to the office or dispensary usually receive 2 c. c. every other day. In more severe cases, when office visits would be a hardship, the patients receive 2 c. c. daily, given at home. In pernicious cases 2 c. c. is given twice daily, and the patients are of course confined to bed. Experience has shown that every patient should receive at least 12 c. c. entirely irrespective of the fact that they respond quickly and favorably to a smaller number. If fewer are used, relapses are common, and are more difficult of control than the original attack.

Reactions. — Anaphylactic reactions need not be feared. In many hundred injections, all intravenous, in the hands of my assistants, Drs. Mazer and Wachs, and myself, there was one single case in which a reaction occurred, and that case was somewhat questionable.

The patient was a very neurotic dispensary patient. Shortly after the injection she began to vomit excessively; a similar attack, however, had occurred also before any injection had been given. As a precautionary measure she was kept in the hospital overnight, but no further untoward symptoms were observed.[1] It is, of course, possible that an occasional protein-sensitive individual might show a measure of reaction after injections; but this would occur with any serum, and the possibility is negligible.

One word of caution is needed, however. The presence of a goiter in early pregnancy absolutely contraindicates the administration of corpus luteum extract, either intravenously or intramuscularly, for the control of nausea. In our experience, every such patient has been made much worse by this treatment.

In not a single case has there been any rise of temperature or any evidence of infection following the intravenous use of the extract. We have learned to have confidence in its sterility and now employ it in no other way. The results are more gratifying, more prompt and more lasting than by any other method, and I am confident that the extended experience of the profession will bear out these statements.

1823 Pine Street.

1. Hirst, J. C.: Corpus Luteum Extract in the Nausea of Pregnancy, Preliminary Report, J. A. M. A. **66**: 645 (Feb. 26) 1916; The Control of the Nausea and Vomiting of Pregnancy by Intramuscular Injections of Corpus Luteum Extract, ibid. **67**: 1848 (Dec. 16) 1916.

1. Since this article was written there has been one other case of moderate reaction, evidencing slight shock and vaginal bleeding. This patient aborted within twenty-four hours, and is the only one in our records in whom abortion seemed to have resulted from the injection.

THE AMBULATORY PATIENT WITH CARDIAC DISEASE

WITH ESPECIAL REFERENCE TO DIGITALIS THERAPY *

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The ambulatory patient with cardiac disease is a more difficult subject for study than the hospitalized patient with cardiac disease. In the hospitalized case, one has practically all measures always under control, as the cardiac patient is merely the subject of treatment and is not actively engaged in carrying out any part of it. In the ambulatory case, we are confronted with a different problem: the patient is not merely the subject of treatment but carries out his own treatment as well.

The first obstacle that we encounter is the patients' lack of intelligence and their lack of appreciation of the smaller details, so vital for successful treatment; but in a large number of cases we have been able to educate them to this appreciation. Another factor is that we see our patient only once a week at the shortest interval, which is a drawback, especially in our Type 3 cases. On the other hand, we often have some difficulty in getting the patient to return at these weekly intervals because after a few visits he is so improved that he does not feel or understand the necessity of returning as often as requested, reporting only when he again has symptoms.

Medication is the source of another hardship, in that we are not able at present to obtain a standardized preparation of digitalis from the dispensary, nor do we obtain the same preparation throughout the year. Again, we have no method whereby the patient may accurately measure his dose of digitalis, nor can we know whether the patient is taking his medicine regularly. While all these factors tend to diminish the accuracy of any study of these cases, it must be borne in mind that this is also the condition which exists when the cardiac patient is under treatment by the average general practitioner. We feel, therefore, that the study of a group of patients under this type of treatment allows us to make deductions, or possibly elaborate principles, which may be of value.

CLINICAL ROUTINE

Before entering on the discussion of treatment, it might be well to relate the method or routine we follow in the clinic from the standpoint of therapy. After the history, physical examination and diagnosis have been completed by the men assigned to this work, the patient is referred to me for treatment. My first interest in each new patient is his functional capacity, as classified by the Association of Cardiac Clinics:

Type 1. Patients having heart disease, but who have never been decompensated.

Type 2. Patients having heart disease who have been decompensated but who are now compensated.

Type 3. Patients having heart disease and who are now decompensated.

Type 4. Cases of possible heart disease.

Type 5. Cases of potential heart disease.

From this classification, from the other data on his chart and from personal observation, I determine whether or not the patient requires digitalis. If digitalis is required, it is ordered, with all the necessary explanations as to measuring the dose, symptoms of toxicity, and so forth, and also with any other directions as to treatment, such as rest and diet. The patient is then requested to return weekly at first and at longer intervals later, depending on his condition.

At each visit to the clinic, the patient is put through a definite routine, that is, his weight, general condition, the presence of edema, dyspnea and cyanosis, the heart rate and regularity, pulse deficit, and blood pressure, are all observed and charted, as well as any change in his classification of functional capacity (Fig. 1). It is on these observations that the effectiveness of the medication is judged. The next step is the determination for each case of the dose necessary to produce a "digitalis equilibrium," that is, the minimum dose which will keep the patient digitalized and compensated under the existing conditions of work. The "digitalis equilibrium" having been established, the patient is allowed longer intervals between visits, but in no case requiring digitalis do we grant intervals longer than four weeks. In the nondigitalized cases, we allow intervals up to three months. The long intervals may appear hazardous, but during the early part of the treatment the patient is thoroughly instructed in his own case, so that he is capable of recognizing the first appearance of any symptoms of decompensation (usually dyspnea) or of the toxic action of digitalis (nausea, vomiting, headache, etc.). At the appearance of any symptoms he is instructed to return to the clinic on the next clinic night, or if

No..... Name..... Date.....
Age.... Nativity..... Occupation.....
Date of first visit.....
Diagnosis .....

Date	Weight	Patient's Statement of Condition	Precordial Distress	Edema	Dyspnea	Cyanosis	Heart Rate	Heart Arrhythmia	Pulse Deficit	Blood Pressure: Systolic	Blood Pressure: Diastolic	Lung Signs (râles)	Functional Classif.	Taxing Features. Changes in Occupation	Time Lost on Account of Heart condition (a) Days at Home (b) Days in Hospital	Medication	Remarks

Fig. 1.—Data covered by heading of therapy chart used at the cardiac clinic.

* From the Cardiac Clinic, Bellevue Hospital Social Sevice.

the interval is too long, to communicate with the Social Service.

One of the features of our routine is our check of a patient's attendance. At each visit he is given a slip containing his name and the date on which he is to return (Fig. 2). The slips are bound in book form,

SOCIAL SERVICE CARDIAC CLINIC

BELLEVUE HOSPITAL

M..... No.....
You are requested to return to this Clinic on

Friday, ... at 8 p. m.

Fig. 2.—Specimen of one of the five slips that appear on each page of book of "return slips" used in the clinic.

with blanks for carbon duplicates, from which the Social Service makes its files for attendance. If the patient fails to return on the appointed date, he is first notified by a postal, and then if not heard from, by a personal call by a member of the Social Service.

The following report is based on an analysis of the first 250 cases at the clinic, the period of observation ranging from three to twelve months.

The report deals with patients, the majority of whom are well advanced in years, and the conditions we meet may not obtain in a clinic in which the average age is younger, and naturally would differ from those of a children's clinic.

Of the total cases analyzed, only 46.5 per cent. of the patients required digitalis continuously, while the remaining 53.5 per cent. have never received any digitalis, or in some cases only a small initial treatment until occupational or other readjustments could take place.

RESULTS OF TREATMENT

For convenience, we have divided the series of cases into the nondigitalized cases, the digitalized cases with improvement, and the digitalized cases which are not improved. As the index of improvement, we took the lessening or disappearance of dyspnea and pulse deficit as the most important signs, with the amelioration of edema, cyanosis and lung signs as next in importance. However, in our improved cases all the above signs have entirely disappeared. In the cases which are recorded as not improved under digitalis medication, we may question whether there was not some improvement from the standpoint that the patients would have been worse without the digitalis. We are, however, not taking this point of view into consideration, and, in fact, several of these patients that were sent to the hospital on account of the lack of improvement died after a short stay, even though they were thoroughly digitalized. We feel rather timorous in stopping digitalis in these cases in an attempt to investigate this point; in fact, we are not justified in doing so.

Age is the first factor that stands out prominently in our series in reference to digitalis medication. In our nondigitalized series, only 28 per cent. of the patients are more than 40 years of age. In our digitalized cases with improvement, this rises to 45 per cent. and in our nonimproved cases it climbs to 54 per cent. The apparent reason for the increased number of cases requiring digitalis as the age advances is that the myocardium naturally tends to become less effective with advancing age and, in addition, has been called on for greater effort for probably a longer time on account of the organic cardiac disease present. This must tend to lessen its reserve. As time passes for the nondigitalized patients, it is safe to anticipate that they also will require digitalis, depending on the amount of abuse to which the heart is subjected.

The most prevalent type of disease we have to deal with is the double mitral, namely, mitral stenosis and mitral regurgitation. The etiologic factor in most of these cases is one of the rheumatic triad. This class of disease forms 28 per cent. of all the cases in our nondigitalized series, 45 per cent. in our digitalized with improvement series and 54 per cent. in the unimproved series. However, we do not feel that this has any bearing on the digitalis effect.

In all but two of our nondigitalized cases, we find that the rhythm has been regular without the appearance of a pulse deficit. On the other hand, in our series that were digitalized with improvement, we find 66 per cent. are cases of auricular fibrillation, having had large pulse deficits which disappeared on proper digitalization. In our nonimproved cases, we have 73 per cent. of fibrillations in which there was very slight or no improvement in heart rate, pulse deficit or other symptoms. These patients were returned to the hospital for two reasons: (1) that the digitalis could be pushed to the physiologic limit with the least risk, and (2) that they would get proper rest. None of these patients so readmitted has done well and as a proof of terminal fibrillation, 57 per cent. of the patients with fibrillations have died. The etiologic factor was the rheumatic triad.

The two patients with fibrillations in our nondigitalized series had a slow pulse rate. There is probably a decreased conduction in these cases, possibly in the nature of a sclerosis in the bundle.

Our statistics regarding the work the patients were able to perform are interesting. In our nondigitalized series, 95 per cent. of the patients work. This is in reality 100 per cent., inasmuch as the 5 per cent. not working were idle for reasons other than physical disability. Of the patients working, 11 per cent. were able to do heavy physical work, 30 per cent. were able to do work requiring a moderate expenditure of physical energy, and 58 per cent. did light work. In our series that were digitalized with improvement, 85 per cent. were working. The 15 per cent. not working came under two classes: first, those unable to readjust themselves to lighter work, and second, those who were not able to do any type of work. Of those working, 22 per cent. did heavy work, 22 per cent. did moderate work and 56 per cent. did light work. In our nonimproved series only 18 per cent. worked, all doing light work. It might be argued that a greater number of our nondigitalized patients would have been able to do heavy or moderately heavy work if they were digitalized, but this does not appear feasible, as we would be putting extra burdens on the heart by the heavy work. Our aim is to obtain, for each cardiac patient, work requiring the least expenditure of physical energy, thereby saving as much as possible of the cardiac reserve.

METHOD OF TREATMENT

Coming now to our method of treatment, we are not at variance with the recognized standards of digitalis medication, but some of the more drastic measures are not applicable to the ambulatory cardiac patient, or if used must be modified. In ordering digitalis, we do not allow the patient to use a dropper in measuring his dose but insist on his dropping the drug from the bottle which is supplied. The lips of these bottles are fairly uniform and deliver about

three drops to the minim. We considered at one time making up digitalis mixtures containing definite amounts of digitalis to the teaspoonful, but found that this did not possess any advantage over the drop method, in that ordinary teaspoons vary as much as 25 per cent. in capacity. Another fact is that different patients have different concepts of a teaspoonful; some fill it to practically overflowing while others get less than the normal capacity. Our ultimate aim is to obtain a standardized tincture and droppers graduated in minims with which the patient can accurately measure the amount ordered.

With each new patient requiring digitalis and not recently taking it, our first attempt was thoroughly to digitalize him. We started with 30 drops, three times a day, and varied this dose later as the requirements arose. When full digitalization occurred, we began to decrease the dosage until he again showed the early signs of decompensation, when the dose was again increased. After several attempts with this procedure, we were finally able to obtain a minimum dose which would keep him digitalized, or, as it may be called, in "digitalis equilibrium." This dosage when accurately determined does not produce overdigitalization, and the patient can be kept under medication indefinitely.

For convenience, we have translated our drop dose system into minims for easier comparison. In studying the cases of the digitalis with improvement series, we find that 71 per cent. of the patients received between 20 and 30 minims per day; the remaining 29 per cent. were divided equally above and below this dosage. While our method did not lend itself to any great degree of accuracy, the figures compare favorably with those of Pardee of 22 minims per day. We were not able to work out any relationship between the amount of digitalis and the body weight, nor could we find any relationship between the dose and the type of work. Also, in our series, the etiologic factor and the anatomic diagnosis do not affect the digitalis dosage. This we believe is now generally accepted.

We have further subdivided our patients that were digitalized with improvement into the regular and auricular fibrillation types, but we were again unable to find any differences.

In our patients that were not benefited by digitalis we were not able to establish a "digitalis equilibrium" at the time, as we referred them to the hospital, since we were unable, even with increased dosage, to obtain any apparent benefit. We set our upper limit of digitalis at 45 minims per day for the ambulatory patient with cardiac disease, and if no beginning improvement followed the dosage after one week's trial we felt that he was a hospital case. We realize that this is conservative, but we feel that we must be conservative as our patients are not under constant observation and are not able to see us excepting at clinic nights. We have never attempted any of the rapid digitalization methods at the clinic as we feel that patients requiring such medication should be in the hospital.

Overdigitalization is an infrequent event at the clinic, there having been but seven occurrences in the last twelve months, three of these showing only coupled beats and the remaining four having had nausea, vomiting, headache, etc. We are frequently confronted with the symptom of nausea alone, even after the first dose of digitalis, but we do not feel that this is a reliable symptom of overdigitalization without other evidences, as these patients can continue taking large doses without the other evidences of overdigitalization appearing. We have found that if the patient takes a glass of water after each dose this symptom does not occur.

We are not in agreement with the old idea that digitalis administration should be stopped at regular intervals, if the dosage is properly determined for each individual. When the "digitalis equilibrium" has been established the patient can continue taking this dosage over a long period of time, as the figures in the accompanying tabulation will show.

None of these patients has shown any signs of overdigitalization.

EFFECT OF CONTINUED DOSAGE OF DIGITALIS

Length of Time Digitalis Has Been Taken Continuously Months	Daily Dose Minims
13	20
12	35
12	20
12	20
10	23
10	30
10	10
10	20
9	30
8	23
7	20
7	20
6	20

Since the organization of our clinic we have seventeen recorded deaths which may be subdivided thus: patients digitalized but not benefited, 7; patients digitalized and improved, died from sudden exertion, 2; patients that died of intercurrent disease, 3; patients listed as not attending, 2, and patients sent to the hospital after the first visit, 3.

It will be seen from this classification that only nine patients had died from cardiac failure while still being actively treated at the clinic. Seven of the patients proved to have been cases of terminal fibrillation, since they were properly and actively digitalized in the hospital; the remaining two were improved and compensated but died from sudden overexertion. These facts would tend to show that the life of a cardiac patient can be prolonged, in comfort, when he is properly and continuously digitalized.

One not infrequently meets a physician who believes that the giving of digitalis in more than very small doses to the ambulatory cardiac patient is attended with the danger of sudden death. We doubt whether any well informed physician would agree with this. Of our patients who died while under digitalis medication, we know the cause of death in each instance and in none of them could the death be attributed to digitalis. In fact, our hospital experience shows that many patients are forced to enter the hospital in a dangerous condition because of insufficient digitalis medication.

CONCLUSIONS

In conclusion, certain principles relative to the ambulatory cardiac patient and his requirements for medication may be emphasized. The first essential is an accurate diagnosis. By this is meant an exhaustive study of the condition of the myocardium and its functional capacity and not merely a study of the type of valvular murmur present. The presence of a valvular lesion does not in itself call for digitalis medication, nor are etiology, the heart rhythm, and type of work determining factors. As a matter of fact, the functional capacity of the myocardium, alone, is the criterion for medication, because the syndrome of decompensation appears only when the myocardium is

unable to function properly. Since the myocardium improves or deteriorates as time goes on, this diagnosis is a shifting one. In one sense, therefore, a new diagnosis from this standpoint must be made at each visit of the patient.

After having established the diagnosis or functional capacity of the myocardium, the next step is to outline a definite course of treatment with special reference as to whether or not digitalis is required. In cases in which the myocardium possesses its full functional capacity and the patient is able to perform his daily routine without the appearance of symptoms, digitalis is not indicated. As has been stated heretofore, more than half of all our patients did not require digitalis. On the other hand, if symptoms of decompensation are present and the case requires digitalis, our first aim is thoroughly to digitalize the patient and then definitely to establish his "digitalis equilibrium," which dosage he can take indefinitely without the fear of overdigitalization. As has been pointed out in this connection, a source of danger is a tendency to underdigitalize rather than overdigitalize. One must bear in mind further that the dosage of digitalis must be fixed for each individual, and this not by an arbitrary number of drops but by a careful study of the amount necessary to produce the desired effect.

It should be clearly understood that a certain number of patients with decompensation fail to be benefited by digitalis. These cases must be considered as terminal ones, and the explanation of the lack of benefit appears to be that the functional capacity of the myocardium is so low that it has no reserve left with which to respond to the digitalis medication.

Finally, with regard to readjustment to work. As in other features of treatment, each individual must be considered in a class by himself. There are two points which stand out clearly: First, so-called heavy work has been established by long continued custom as being very nearly the maximum work which the average individual can do with benefit to himself and to the community in general. It is in harmony with this that one finds the daily hours set aside for work and for rest so definitely arranged for. Secondly, since the cardiac patient, because of his deficiency, is not up to the average normal individual physically, it follows that what is nearly maximum work for the latter is more than normal for the cardiac patient. Hence no person with cardiac disease should do what is usually classed as heavy work. But from the standpoint of the cardiac patient, there are great variations in capacity for work and hence great variations in what might be considered heavy work for a given group of cases. The result aimed at is to find work which is not heavy for each patient and to keep him well within his functional and physical capacity.

338 East Twenty-Sixth Street.

Yellow Fever in Cuba.—In a recent issue of *Vida Nueva* Dr. C. M. Trelles reviews the prevalence of yellow fever in Cuba during the last century. He shows that from 1854 to 1899 the disease caused at least over 74,000 recorded deaths, which if properly reported would probably exceed 99,000. Yellow fever was still in full sway when the Americans took hold of Cuba in 1899 and began to decrease only in 1901 after General Wood began enforcing antimosquito measures. Dr. Trelles estimates that if Finlay's mosquito causation theory of yellow fever had been applied when first advanced in 1881, at least 35,000 deaths would have been prevented. He quotes with approval General Wood's saying that the eradication of yellow fever alone would have justified the American war on Spain.

A CASE OF EPIDEMIC ENCEPHALITIS WITH UNUSUAL FEATURES

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During this formative period of our clinical knowledge concerning epidemic encephalitis, unusual cases should be described. The case reported here is selected from a group of twenty-five because it presents a number of rather atypical and interesting features.

REPORT OF CASE [1]

History.—A man, aged 38, German-Polish, a printer, whose family history was strikingly free of constitutional or nervous and mental diseases, was able to give us the following account of his prehospital symptoms: March 7, 1920, he contracted a "cold," coughed a great deal, and had a severe frontal headache. The same evening there was a chill, but no fever. Four days later he began to feel drowsy, lost his energy, and "just wanted to keep quiet." He could not open his eyes, and the lids "felt very heavy." Vision was impaired, but there was no diplopia. The dull frontal headache became constant, but there was no other pain. On admission, March 14, the patient's chief and only complaint was extreme drowsiness. He answered questions rationally, but very slowly, and there was a marked tendency to sleep.

Physical Examination.—The patient was large and well nourished. There was a slight ironing out of the left side of the face. There was bilateral ptosis, the eyes looking downward and forward through narrow palpebral fissures. The left pupil was larger than the right, but both were contracted and irregular, and reacted sluggishly to light. There was a tremor about the lips. The facial expression movements did not disclose any assymetry or difficulty. The tongue protruded in the midline. There was no cervical rigidity, though there was a suggestion of a Kernig's sign. The reflexes were normal with the exception of the right patellar, which was much diminished. There was no spasticity, ankle clonus or Babinski reflex. The opthalmologist's first examination was negative; the second discovered an almost complete ophthalmoplegia externa. There was no diplopia.

Clinical Course.—A few days after admission, constant and persistent twitching of the facial muscles developed. It is still present. The next signs that appeared were marked coarse tremors of the fingers, hands and legs. Cervical rigidity and a distinct bilateral Kernig's sign soon followed. Mentally the patient was dull and stuporous, with fairly frequent periods of active hallucinatory delirium. The voice was whispering, and the breathing stertorous. Lumbar puncture, which was resorted to at frequent intervals, always produced temporary improvement. There was slight fever.

About the middle of May the patient became clear mentally. His temperature was normal and he was stronger. There was spasticity, bilateral toe drop and absent patellar reflexes. Continuous, but gradual, improvement followed. In September the patient walked with assistance, and in October unsupported.

In November there was this clinical picture: The voice was slow and monotonous. Motor movements were awkward, jerky and dysmetric. The left corner of the mouth was lower than the right. There was constant twitching of the muscles just above the left eye, below the right malar bone, and at the chin and the left corner of the mouth, from which saliva dribbled. The twitching was much augmented by various facial expression movements. Frowning was impossible. There was no ptosis, nystagmus or strabismus. The pupils were irregular and unequal, the left being larger. They reacted promptly to light, but imperfectly to accommodation. The tongue was protruded in the midline and was grossly

1. From the service of Dr. G. W. Norris.

tremulous. The arms and legs were somewhat spastic, but there was no Kernig's sign or cervical rigidity. There was bilateral foot drop. The biceps, patellar, Achilles, plantar, abdominal and right cremasteric reflexes were greatly exaggerated; the triceps reflex was diminished and the left cremasteric, absent. The outstanding features were the expressionless parkinsonian mask, the "pill-rolling" position of the hands, and the classical muscular catatonia. I have seldom seen the latter symptom more typically presented, even in the catatonic stupor of dementia praecox. The catatonia gradually subsided, and at present paralysis agitans would be diagnosed on the strength of the mask, the speech, the gait and the characteristic tremors.

Summary of Laboratory Examinations.—The serum and fluid were negative for the Wassermann test. Leukocytes in the blood averaged about 14,000. The urine showed albumin. About twenty-five spinal fluid examinations revealed a pleocytosis, ranging from 20 to 320 cells, usually about 55 or 60 per cent. being neutrophils; there was a trace of globulin; Fehling's solution was invariably reduced; pressure was variable, and all smears and cultures were negative.

COMMENT

Clinicians recognize at least ten varieties of epidemic encephalitis, namely, (1) poliencephalitic, (2) lethargic, (3) parkinsonian, (4) cataleptic or catatonic, (5) meningitic, (6) cerebral, (7) polyneuritic, (8) myelitic, (9) myoclonic and (10) psychotic. It is evident from experience that the group to which a given case is assigned depends largely on the time in the course of the disease at which the patient is studied. Seldom, however, does one form so definitely succeed another as it did in our patient. At first the picture was an almost uncomplicated lethargy, then the meningitic aspects made their appearance, next the psychotic symptoms were prominent, and finally the catatonic and parkinsonian signs came to the fore; and now, almost a year after the onset, the latter hold the center of the stage. Thus is expressed in clinical terms the multiplicity and disseminated pathology of the disease.

The cell count in the spinal fluid was unusual. Several times it was in excess of 300 cells, from 55 to 60 per cent. being neutrophils. Together with the cervical rigidity, Kernig's sign and general toxicity, this made meningitis appear as a strong probability. However, the otherwise negative fluid findings, the course and the outcome are opposed to such a diagnosis. In fifteen cases [2] of encephalitis, the average cell count was 9, the highest being 24; and in sixty-four cases from the literature, a count of 150 was found only twice. The preponderating cell was the mononuclear leukocyte.

The catatonia exhibited by this and other cases of epidemic encephalitis deserves consideration. This muscular sign which has been observed in toxic and exhaustive states, typhoid and other acute infections, as a postoperative sequel, in renal insufficiency, organic brain disease, abscess and tumor, cerebellar hemiatrophy, etc.,[3] is still too often regarded as peculiar to the province of mental disease and more particularly to dementia praecox. Further, it would seem that its frequency in the field of neurology should be given more weight in favor of its probable organic origin; yet it is most commonly described in terms of a pure functional disturbance. It should be more carefully investigated from clinical, physiologic and chemical standpoints. From the clinical aspect a case of undoubted schizophrenia which is now under observation presents an interesting comparison. The psychosis closely followed a severe attack of influenza. Among the earliest mental (?) features were various subjective eye symptoms which were seemingly without foundation and apparently delusional. At this time, which is two years after the onset, the patient is remarkably emaciated, and shows well defined catatonia and an intermittent strabismus.

4401 Market Street.

2. Dunn, A. D., and Heagey, F. W.: Epidemic Encephalitis: Including a Review of One Hundred and Fifteen American Cases, Am. J. M. Sc. **160**: 568 (Oct.) 1920.
3. Strecker, E. A.: Certain of the Clinical Aspects of "Late Katatonia," Am. J. Insan. **74**: 185 (Oct.) 1917.

LIPOMA OF THE CORPUS ADIPOSUM BUCCAE

REVIEW OF THE LITERATURE AND REPORT OF A CASE

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Lipomas of the corpus adiposum buccae are most unusual. Cerné,[1] in 1881, observed that most writers spoke of hypertrophy of this structure but that none

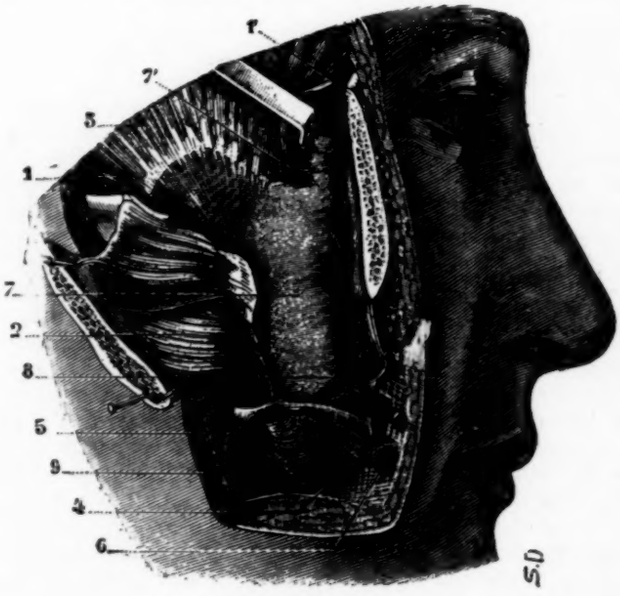

Fig. 153
La boule graisseuse de Bichat, vue en place.

1, 1', arcade zygomatique sciée à ses deux extrémités. — 2, masséter renversé en dehors avec la partie moyenne de l'arcade. — 3, temporal. — 4, buccinateur recouvert de son aponévrose. — 5, canal de Sténon se dégageant du prolongement antérieur de la parotide. — 6, glandes molaires. — 7, boule graisseuse de Bichat se continuant avec 7', la graisse de la région temporale — 8, mince aponévrose recouvrant la boule graisseuse. — 9, coupe de la peau.

Fig. 1.—Corpus adiposum buccae, from Testut and Jacob's Anatomy.

reported cases. According to Lexer,[2] lipomas of the face are infrequent, but when present arise most frequently from the sucking pad. Grosch [3] collected from the literature the reports of 685 lipomas occurring subcutaneously; of these only thirteen were on the face, and apparently not one arose from the structure under consideration. Jacobi,[4] in 1884, reviewed the literature on congenital lipomas exhaustively. In his review no mention is made of the corpus adiposum buccae.

1. Cerné, A.: Lipome de la boule graisseuse de Bichat, Bull. Soc. anat., Paris, 1881, p. 333.
2. Lexer: Lipome, Handbuch der praktischen Chirurgie **1**: 659, 1913.
3. Grosch, J.: Studien über das Lipom, Deutsch. Ztschr. f. Chir. **26**: 307, 1887.
4. Jacobi, A.: Congenital Lipomas, Arch. Pediat. **1**: 65, 1884.

Butlin [5] stated that lipomas, occurring anywhere, are unusual in infancy and childhood, and that the majority of them are congenital.

Before proceeding farther, it is well to consider in some detail the anatomy of the corpus adiposum buccae.

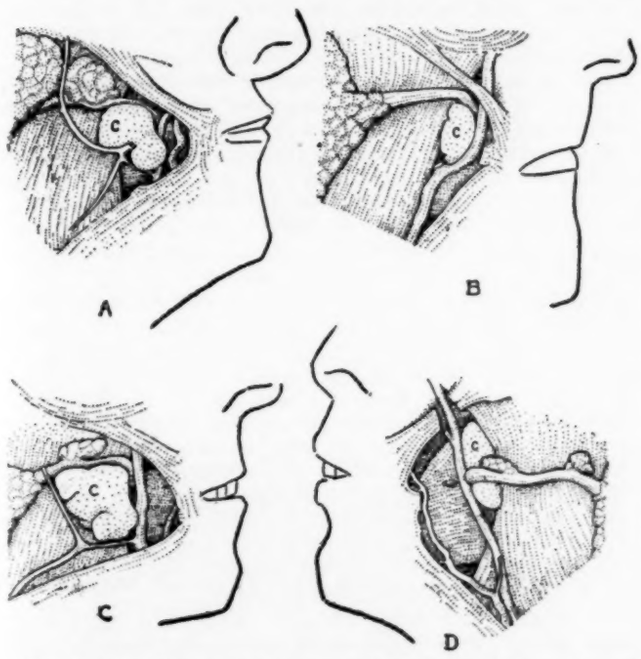

Fig. 2.—Four sketches by Scammon of dissections of the sucking pad in adult cadavers: *c*, corpus adiposum buccae.

Heister is given credit by many writers for being the first to describe it in his "Compendium Anatomicum," published in 1732. It is evident, however, from the reference of Heister [6] to the works of Gedani that the latter had described in 1725 what the former had in mind. Because Heister's description pertained to "conglomerate glands" with ducts opening into the oral cavity, and because of the extreme posterior position of these structures as portrayed by him in Figure 36 in his book, it may well be called in question whether he really was dealing with the corpus adiposum buccae. He may have been describing molar glands. Winslow,[7] in 1753, briefly described the same structures referred to by Heister, agreeing with him in his description. Most writers give Bichat credit for being the first to recognize the fatty nature of the corpus adiposum buccae, the French terming it "la boule graisseuse de Bichat." However, it is quite evident that its fatty nature was known before Bichat [8] referred to it in 1801, for his reference was only incidental to a general discussion on adipose tissue, and was very brief. In 1821, Burns [9] stated that tumors arose from this "bundle of fat." His sketches leave no doubt that he had in mind the corpus adiposum buccae. Gehewe,[10] in 1852, described its gross anatomy and its development as seen by the naked eye. Ranke,[11] in 1884, described it in considerable detail. He, like Gehewe, attributed considerable importance to it as a mechanical aid in sucking. He termed it the "saug polster," or sucking pad. Jonnesco,[12] in Poirier and Charpy's anatomy, gives a brief description of its gross anatomy.

Scammon,[13] in 1919, published an exhaustive article on its development. He described the corpus adiposum buccae, or sucking pad, as "a specialized and sharply circumscribed mass of adipose tissue which lies in the cheek partially wedged between the masseter and buccinator muscles, and covered externally by the superficial fascia of the face and the zygomatic muscle. Posteriorly, it is connected by a stalk with a much larger fat mass, termed by Forster the corpus adiposum malae, which is located between the temporal and the pterygoid muscles, and which possesses a superficial process extending over the outer surface of the temporal muscle beneath the temporal fascia." Jonnesco states that the parotid duct crosses the middle of the corpus adiposum buccae, forming a groove which separates it into two lobes. According to Scammon, the duct may pass either cranial to the body, or may lie in a deep groove on its superficial surface. Scammon adds further that "at birth the sucking pad is a prominent structure of the cheek. In well nourished individuals it is expanded to such a degree that it pushes the buccinator muscle inward toward the oral cavity and forms a prominent elevation laterally on the external surface of the face." Scammon was unable to find evidence of a serous bursa surrounding the corpus adiposum buccae, as observed by Verneuil.[14] He examined forty-two cadavers ranging in age from 20 to 60 years, and found the structure well developed in thirty-four, and in two well developed on one side and practically absent on the other. No relation was observed between the size of the sucking pad and the age of the individual. Its size is not affected, apparently, by extreme emaciation.

Fig. 3.—Appearance of patient on entering hospital.

It is of interest to note that Shattock [15] found this structure present in an infant chimpanzee and an infant sacred baboon.

5. Butlin, H. T.: St. Bartholomew's Hosp. Rep. **13**: 179, 1877.
6. Heister, L.: Compendium Anatomicum, 1732, pp. 109, 146.
7. Winslow, J. B.: Expositio anatomica structurae corporis humani, Frankfort and Leipzig, 1753.
8. Bichat, F. M.: Anatomie générale, appliquée a la physiologie et a la médecine, Paris **1**: 106, 1801.
9. Burns, A.: Observations on the Chirurgical Anatomy of the Head and Neck, Edinburgh, 1821, p. 319.
10. Gehewe, W.: De corpusculo quodam adiposo in hominum genis obvio, Diss. Dorpat, 1852 (quoted from Scammon).
11. Ranke, H.: Ein Saugpolster in der menschlichen Backe, Virchows Arch. f. path. Anat. **97**: 527, 1884.
12. Jonnesco, T.: Tube digestif (Poirer et Charpy), Traité d'anatomie humaine, Ed. 2, **4**: 61, 1901.
13. Scammon, R. E.: On the Development and Finer Structure of the Corpus Adiposum Buccae, Anat. Rec. **15**: 267, 1919.
14. Verneuil, M.: Une nouvelle bourse séreuse de la face, Bull. Soc. anat., Paris, 1857, p. 170.
15. Shattock, S. G.: On Normal, Tumor-like Formation of Fat in Man and the Lower Animals, Proc. Roy. Soc. Med. Rept. for Session 1908-1909, Pathology Sec., p. 207.

Figure 1 (reproduced from Figure 153 of Testut and Jacob's [16] Anatomy), and Figure 2 (a reproduction of four sketches published by Scammon as Figure 9) show the structure and its relations very well.

It is my purpose in this paper to review all the cases of tumors of the corpus adiposum buccae reported, and to report a case. I have included in this collection the very probable as well as the undoubted cases, and have been able to find only fifteen. In nine of the fifteen cases the statement was made that the tumor arose

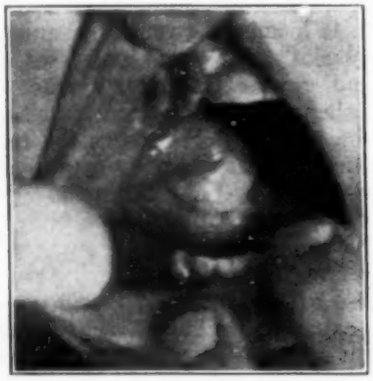

Fig. 4.—Tumor in right cheek.

from the corpus adiposum buccae. However, were this statement lacking in several of these nine cases, they would have to be classified as doubtful because of incomplete descriptions. In the remaining six cases it is impossible to decide positively that the tumors arose in the sucking pad; yet it is more than likely that they did.

Because of too brief description I have omitted the case of Acrel, reported in 1772, and contained in the collections of Bruns [17] and Villar.[18] Ransohoff included in his collection the case reported by Mathias.[19] I have omitted it because it seems to me very evident that the corpus adiposum buccae was not the seat of origin of the growth, for it began "as a small kernel behind the ear."

I have had access to the original reports in thirteen of the fifteen cases, the exceptions being those of Auvert and Ollier. Bruns and Villar reviewed the former, and Tripier [20] the latter case. Only four cases, so far as I can determine, have been reported in the English literature.

As was stated earlier in this paper, it is evident that Burns, writing in 1821, was aware of the fact that lipomas arise from the sucking pad. He reported no cases, however. Auvert reported the first case in 1848. One would have to classify it as a very probable case. The first undoubted case is that of Bruns, reported in 1859.

SUMMARIES OF FIFTEEN CASES FROM THE LITERATURE

CASE 1 (Auvert, 1848).—A lobulated tumor, the size of a hen's egg, was removed through a mucosal incision from the right cheek of a girl, aged 18 years. It first appeared five years before, following a blow on the cheek.

CASE 2 (Robert,[21] 1851).—An indolent, soft and elastic tumor the size of an egg, situated at the site of the corpus adiposum buccae, was removed through a mucosal incision from the right cheek of a woman, aged 22. It appeared six months before, following an acute inflammation of the cheek secondary to a carious tooth. It was a lobulated lipoma.

CASE 3 (Gant,[22] 1856).—A semielastic, lobulated, painless and tolerably movable tumor about the size and shape of a pigeon's egg, situated at the site of the corpus adiposum buccae and projecting into the oral cavity against the upper molar teeth, was removed through a skin incision. Paget diagnosed it a fatty tumor.

CASE 4 (Bruns, 1859).—A congenital, semispherical tumor, the size of a man's fist, situated in part at the site of the corpus adiposum buccae, was removed through a skin incision from the right cheek of a girl, aged 19 years. It was a lobulated, ramifying lipoma which was stated by Bruns to have arisen from the corpus adiposum buccae.

CASE 5 (Virchow,[23] 1863).—Virchow merely stated that there was a specimen, a lipoma of the sucking pad, in his collection.

CASE 6 (Gourand,[24] 1863).—A fluctuating tumor, the size of a turkey's egg, having all the ordinary signs of a lipoma, situated in the right cheek of a man, aged 51, at the site of the corpus adiposum buccae, first appeared seven years before as a tumor hardly the size of a pea. On removal it presented all the anatomic characteristics of a lipoma.

CASE 7 (Ollier, 1869).—A fluctuating tumor, the size of a small walnut, projecting between the teeth during mastication, was removed through a mucosal incision from the cheek of a patient, aged 55 years. It was a fatty, nearly gelatinous tumor. It had been present three years.

CASE 8 (Hubert,[25] 1873).—A soft, lobulated, mobile tumor, whose center corresponded to the space occupied by la boule graisseuse de Bichat, was removed through a mucosal incision from the right cheek of a man, aged 24. The tumor had been observed for six years. It was a fatty tumor the size of a large chestnut.

CASE 9 (Cerné, 1881).—An encapsulated fatty tumor the size of a large walnut was removed through a mucosal incision from the right cheek of a man, aged 35. According to Cerné, the tumor arose from la boule graisseuse de Bichat.

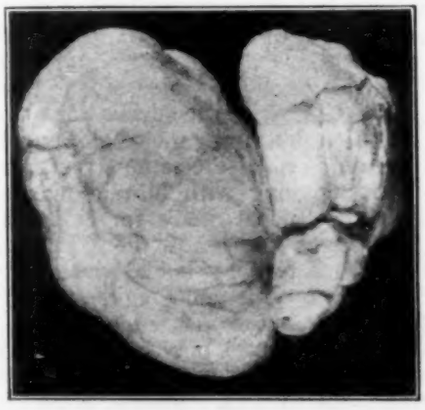

Fig. 5.—Bilobular appearance of tumor.

CASE 10 (Villar, 1888).—An elastic tumor, the size of a walnut, occupying the center of the right cheek, was observed in a man, aged 62. It was first noticed six months before, when it was the size of a pea. The lipoma was removed through a mucosal incision. Villar stated that it arose from la boule graisseuse de Bichat.

16. Testut, L., and Jacob, O.: Traité d'anatomie topographique **1**: 214.
17. Bruns, V. V.: Praktische Chirurgie **2**: 146, 1859.
18. Villar, M. F.: Lipomes des joues; lipomes de la boule graisseusse de Bichat, Bull. Soc. anat., Paris, 1888, p. 954.
19. Mathias: Lancet **1**: 692, 1863.
20. Tripier, Léon: Lipome, Dictionnaire encyclopedique des sciences médicales, Series II, 1869, p. 644.
21. Robert, M.: Lipome de la joue, Diagnostic difficile, Bull. Soc. de chir. **1**: 850, 1851.
22. Gant: Lancet **2**: 620, 1856.
23. Virchow: Pathologie de tumeurs **1**: 392, 1863.
24. Gourand: Note sur un lipome de la joue droite, Bull. Soc. anat., Paris, 1863, p. 21.
25. Hubert: Lipome de la joue droite, Bull. Soc. anat., Paris, 1873, p. 717.

CASE 11 (Owen,[26] 1890).—A lobulated lipoma of considerable size situated at the site of the corpus adiposum buccae was removed from the cheek of a patient. Owen stated that the tumor far exceeded the normal size.

CASE 12 (Stoll,[27] 1892).—A soft, pseudofluctuating tumor was present in the right cheek of a woman, aged 25. For the last fifteen years the right cheek had been larger than the left. The tumor was an angiolipoma which was encapsulated and was easily shelled out, except for a stalk located posteriorly and superiorly. This tumor, according to Stoll, arose from the corpus adiposum buccae.

CASE 13 (Stoll, 1892).—A movable, painless swelling the size of a hazelnut was situated in the right cheek close to the angle of the mouth. The patient was a man, aged 29. The swelling had been observed for three years. Stoll included this case among those of the corpus adiposum buccae.

CASE 14 (Ransohoff,[28] 1917).—A lobulated, fluctuating tumor the size of a small peach was present in the left cheek of a baby, aged 6 months. It extended from near the ear to the angle of the mouth; it projected into the buccal cavity. It was a lipoma, and was removed through a skin incision. Ransohoff states that this is a case of congenital lipoma of the sucking pad.

CASE 15 (Ransohoff, 1917).—A uniform swelling was present in the left cheek of a girl, aged 5 years. It extended from the zygoma to the angle of the mouth. It projected between the dental arches as a roll, about the shape and size of an adult thumb. The tumor was removed through a mucosal incision. It was a lipoma which contained an unusual development of fibrous and lymphangiomatous tissue. A tumor had been removed near the same site, through a skin incision, when the patient was 1 year old.

Only three of these fifteen cases, namely, the two reported by Ransohoff and the one by Bruns, were congenital. The ages of onset in the remaining cases range from 10 to 62 years.

Six of these fifteen patients were males, seven females, and in two the sex was not given.

The right side of the face was involved in nine cases; the left in three, and in three the information was lacking.

The size of the tumor in these cases ranges between that of a large chestnut and that of a man's fist.

REPORT OF AUTHOR'S CASE

The case which I have to report is that of a white boy, aged 14 years, who entered the University Hospital, Aug. 28, 1920, because of a tumor of the right cheek which had been present ever since he could remember, but which became externally visible only two years before, when it began to increase in size, continuing to do so up to the time of entrance to the hospital. Prior to this time it was about the size of a hazelnut. Neither the exact date nor the approximate date of onset of this tumor could be learned. It is certain that it was present when the patient was 5 years old. He entered the hospital because of the deformity incident to the tumor.

Examination revealed the presence of a tumor in the right cheek which was one and one-half times the size of a hen's egg. It was located over the buccinator and anterior part of the masseter muscles. When the patient opened his mouth it was seen that the tumor projected into the oral cavity between the upper and lower jaws in the shape of an inflated thumb of a rubber glove. It impinged against the teeth and both the upper and lower dental arches, causing a marked concavity of the latter and changing the direction of the former so that instead of being directed vertically they were directed medially at an angle of about 45 degrees from the vertical. The tumor was soft, lobulated, painless and freely movable under the skin. External palpation gave a distinct sense of fluctuation. Palpation of the portion projecting into the oral cavity showed the tumor to be solid. A dry tap had been performed before entrance to the hospital. The skin and mucosa over the tumor were normal. The mass was very distinct from the parotid gland.

Because the physical findings were those of a lipoma and because the tumor was situated at the site of the corpus adiposum buccae, I made a diagnosis of lipoma of that structure. This diagnosis was confirmed at operation when Dr. A. A. Law removed the tumor through a small mucosal incision. It shelled out easily except for a stalk located posteriorly and superiorly, which was severed. This stalk, no doubt, was the one which connected the corpus adiposum malae with the sucking pad. The fibers of the buccinator muscle had been pushed aside by the tumor so that only the mucosa of the mouth covered its medial aspect. Stenson's duct was not seen. The tumor was a bilobed lipoma whose two lobes were unequal in size. It weighed 36 gm. The characteristics, both gross and microscopic, are well shown by the accompanying illustrations. This bilobed tumor corresponds in every detail with a hypertrophied corpus adiposum buccae.

Fig. 6.—Section of tumor.

It was desirable to determine whether this was a congenital tumor, but accurate information could not be obtained.

Figures 3 and 4 show the deformity of the right cheek as it appeared when the patient entered the hospital.

Figure 5 shows the characteristic bilobular appearance of the tumor.

Figure 6 is a photomicrograph of a section of the tumor, which is a lipoma.

26. Owen, Edmund: An Anomalous Case of Salivary Calculus, Lancet **2**: 71, 1890.
27. Stoll: Beitrage zur Kasiustik der Lipome, Beitr. z. klin Chir. **8**: 597, 1892.
28. Ransohoff, Joseph: Congenital Lipomata of the Cheek, Ann. Surg. **65**: 711 (June) 1917.

Union Medical College, Peking, China.—The completion of this great undertaking, costing more than 5 million dollars, is looked for in the fall of 1921. The anatomy, physiology and administration blocks have been almost finished and are now in use. The entire group of buildings will cover an area of about ten acres. The style of architecture is Chinese, although the windows will be modern. The construction is ferroconcrete, no wood being used anywhere. The sanitary arrangements were made in America to meet the requirements of the Chinese students and staff.

AN AID IN THE DIAGNOSIS OF TUMOR OF THE URINARY BLADDER

DAVID R. MELEN, B.Sc., M.D.
ROCHESTER, N. Y.

A recent introduction in the study of tumor of the urinary bladder has been the use of the roentgen ray to visualize in picture form the size, shape and location of the new growth. In dealing with tumors of this viscus a case may arise occasionally in which it is impossible to perform cystoscopy on account of inability to get the instrument into the bladder. This may be due to a congenital or acquired stricture of the urethra, so-called "hypertrophy" or adenoma of the prostate, adenoma of Albarran's lobe, or like conditions. It would also be applicable in cases of uncontrollable profuse bleeding during cystoscopy, cases of intolerant bladder, and cases of contracted bladder.

In the case presented it was perfectly easy to introduce the cystoscope, and the diagnosis of papillary carcinoma was made at the first examination. It was with an idea of trying to see what a help, if any, the roentgen ray would be, that the pictures were taken.

REPORT OF CASE

History.—A. K., a man, aged 52, married, was referred to me by Dr. Max Morris, March 20, 1920, with the complaint that he passed bright red blood in the urine at various times. The family history was negative. The patient had always been strong and well up to the beginning of his present illness, five years before. He had never had any operations or injuries. He denied gonorrhea and syphilis absolutely by name and by symptoms. The present illness began five years before with an attack of hematuria, during which the patient passed some bright red blood, and small clots in the urine. This attack lasted three or four days, and the urine became clear. Since the onset he had had short attacks of hematuria as often as once a month, or oftener. His greatest period of blood in the urine had been about six months. When I saw him for the first time in March, 1920, he had been passing blood intermittently for a month. This was his longest period of bleeding, as previous attacks would last only a few days. He stated that he thought his attacks of hematuria came about because he was on his feet so much while at work. He was a coat presser in a tailor-shop. An attack of hematuria could be brought about by lifting, straining, or doing any kind of heavy work. There had never been any long, wormlike clots in the urine. The patient voided at normal intervals by day. There was occasional nocturia once in a great while. The stream started easily, and was of good size and force, with no splitting. During the attacks of hematuria the stream became interrupted in character on account of small clots. There had been remarkable freedom from pain, and never any pain suprapubically or posteriorly in the lumbar region, and never any dysuria. There had never been any attacks of renal colic. The patient had lost about 25 pounds in the last five years, and was gradually losing his strength. His best weight, 155, had been reached five years before; his present weight was 130.

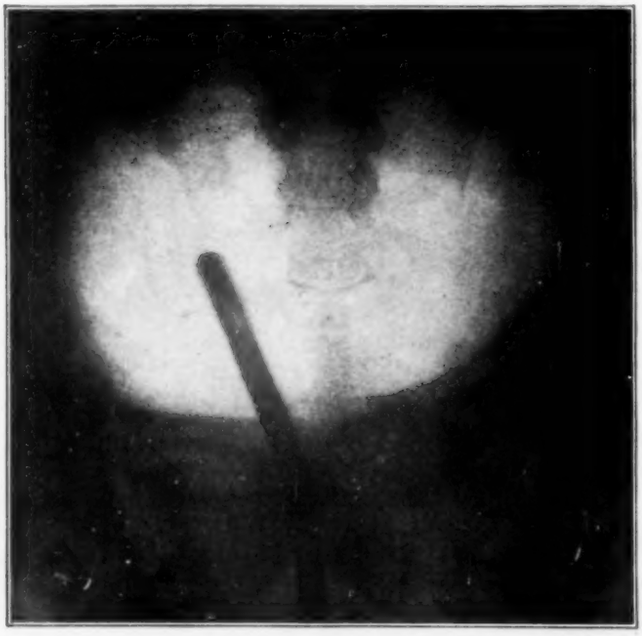

Fig. 1.—Air cystogram: Bladder distended with air, after voiding; soft Nélaton catheter in situ. There is a slight haziness at the location of the tumor on the right.

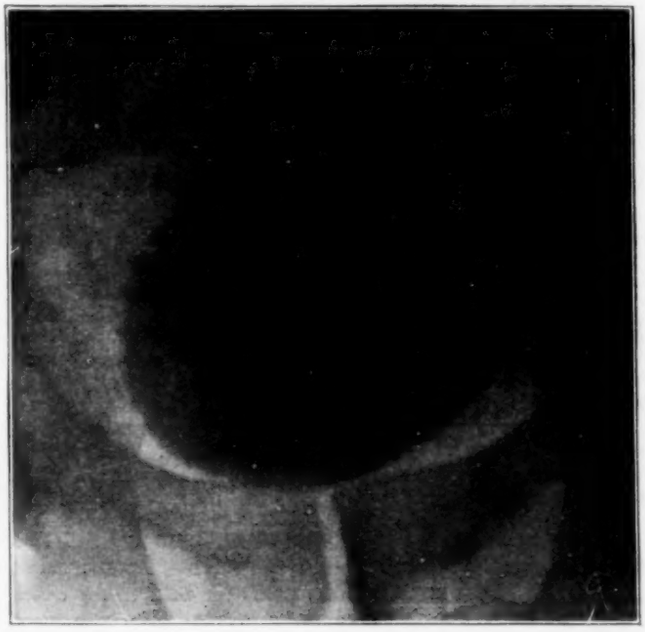

Fig. 2.—Cystogram; 180 c.c. of 15 per cent. sodium bromid injected. The picture shows an asymmetry of outline at the location of the tumor on the right. The tumor itself does not show.

Physical Examination.—The patient looked emaciated. The skin and mucous membranes were very pale. The hemoglobin was 50 per cent. (Sahli). The heart and lungs were negative. The abdomen was soft, relaxed and symmetrical, with no tenderness on deep palpation. The liver, spleen and kidneys were not palpable. No masses were felt. The external genitalia and the contents of the scrotum were negative. Rectal examination revealed a small, firm, smooth, sharply outlined, movable prostate, with no adhesions. There were no areas of stony hardness, and the median sulcus was present. The seminal vesicles were barely palpable; no induration or intervesicular bridge was felt. The urethra was explored; bulbous bougies and a steel sound, size 25 French, passed easily; there was no stricture.

Urinalysis: All three glasses were densely cloudy, straw-colored and acid. The specific gravity was 1.015; albumin, +; sugar, 0. Microscopic examination revealed: leukocytes, +++; erythrocytes, +; bacilli, +; no casts.

Cystoscopy: A Brown-Buerger cystoscope was used. The instrument entered easily; there was no obstruction or irritation; the residual urine was 30 c.c. The bladder capacity was large; it was not measured. A study of the bladder immediately disclosed a large, sloughing, red and dirty gray cauliflower-like mass involving the right lateral wall of the bladder. The right ureteral orifice was not seen at this examination, because the mass projected over it. The left orifice was slightly injected, and was seen to spurt rhyth-

mically. Several petechial spots were seen in the sloughing mass, no doubt the source of the hemorrhage. The mass, as a whole, intruded into the bladder and was attached by a wide base. The mucous membrane of the bladder throughout was somewhat congested, as was also the trigonal area. There was moderate trabeculation of the bladder musculature. The prostatic outline was regular, circular and smooth, with no cleft formation, hypertrophy or intrusion.

A diagnosis of malignant papilloma of the bladder was made.

Treatment and Course.—The tumor was fulgurated six times at weekly intervals to stop the hemorrhage. The bleeding kept getting less and less, and finally stopped. Preceding the second fulguration I excised a piece of the tumor through the operating cystoscope and sent it to the New York State Institute for Study of Malignant Diseases, Buffalo, and then fulgurated the area of the excision. The report of the laboratory stated that the tissue examined was a malignant papilloma. From June 30 to October 15 I applied radium element to the tumor seven times, 100 milligram hours at a dose.

Cystoscopy, October 28, showed the tumor to have become considerably smaller. The patient persistently refused operation.

Fig. 3.—The bladder was emptied of the 15 per cent. sodium bromid solution and an immediate picture taken. The irregular intrusion of the tumor from the right lateral wall inward is easily made out. The left side of the bladder where there is no tumor is homogeneously opaque, and the periphery is sharp and clear. The right is not opaque; it shows the irregular outline of the tumor and the periphery is broken up.

ROENTGENOSCOPY IN DIAGNOSIS OF BLADDER TUMORS

A few roentgenograms have appeared in the literature outlining bladder tumors. An excellent one and one of the earliest is by Kelly and Burnham.[1] A recent contribution by Thomas[2] also shows an excellent picture. Both of these pictures were taken by injecting into the bladder a suspension of bismuth subnitrate in water. Pfahler[3] has used air as a medium. I used sodium bromid, 15 per cent., which proves very satisfactory as a roentgen-ray medium in cystograms. The accompanying illustrations are practically self-explanatory. Figure 1 is a cystogram with the bladder filled with air. Figure 2 shows the bladder completely filled with sodium bromid, 15 per cent. It was impossible to demonstrate either by Figure 1 or Figure 2 the presence of the new growth. It was only after the bladder was emptied of the opaque solution and an immediate picture taken that the tumor was outlined. This method has not been brought forward in the accumulated literature. It is therefore suggested that if any one has occasion to attempt a diagnosis of bladder tumor, to follow the routine outlined, namely, to take an air cystogram first, as this may occasionally show a neoplasm, then to fill the bladder with opaque solution and take a picture, and lastly to take an immediate picture after emptying the bladder.

1. Cabot: Modern Urology **2**, 1918.
2. Thomas, B. A.: The Treatment of Bladder Tumors, J. A. M. A. **75**: 1395 (Nov. 20) 1920.
3. Pfahler, G. E.: Injection of Air for the Roentgen Diagnosis of Tumors of the Bladder, Am. J. Roentgenol. **6**:371 (Aug.) 1919.

CONCLUSIONS

1. It is possible to demonstrate a tumor of the bladder by means of the roentgen ray.
2. The older methods employed—injecting the bladder with air or with an opaque solution—will not always demonstrate the tumor.
3. It is suggested that one should take an air cystogram first, then fill the bladder with sodium bromid solution, either 15 or 25 per cent., and take a second picture, and lastly take an immediate picture after emptying the bladder.

Many thanks are due to Dr. S. C. Davidson for the excellence of the roentgen-ray work.

35 Chestnut Street.

A DUODENAL DIVERTICULUM

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CHICAGO

Cases of duodenal diverticulum are reported not infrequently, since fluoroscopy is so commonly used in the diagnosis of stomach and intestinal lesions. Diverticula are found which apparently give rise to no symptoms, but at times they may be the cause of symptoms which disturb seriously the health and comfort of the patient. The patient whose history is given below suffered at times from severe pain and tenderness localized just below the costal margin on the right side. The pain simulated more closely that of gallstones than stomach ulcer. It is regrettable that the operation was undertaken without a fluoroscopic examination, but I did not believe that the symptoms were suggestive enough of ulcer to warrant such an examination. This diverticulum is reported because it was associated with such severe pain, which was completely relieved by operation.

REPORT OF CASE

History.—Mrs. M. R., aged 36, admitted to the Presbyterian Hospital, Nov. 17, 1920, had first noticed epigastric pain six years before. It came on from two to three hours after meals and gradually increased in severity until the next meal, when the taking of food relieved it. An examination of the stomach contents was made at this time, and the patient was told that she had a hyperchlorhydria. She was under treatment for this for some time. Finally the pain was relieved.

Three years before she entered the hospital, pain developed in the right upper quadrant of the abdomen. This pain would come on gradually, reaching a maximum in a short while. It would at times radiate to the scapula and right shoulder. The pain was relieved by sodium bicarbonate and by the patient's lying flat on the abdomen. This pain, during the three years, came on two or three times a week and frequently became very severe.

Two weeks before entering the hospital, the patient again developed a severe attack of pain which has been more or less constant. This pain had been most constant in the upper right quadrant of the abdomen below the costal arch, but had also radiated to the back, to the angle of the scapula. This pain usually became most severe about 5 or 6 o'clock in the afternoon. Nausea had never been a constant feature. At times, however, at the beginning of the attack of pain some nausea might be noted. Jaundice, according to the patient, had been noted with some of the attacks. It usually developed a day or two after the beginning of the pain. Chronic constipation had been noted by the patient during the last few years, and had been relieved by cathartics. The pain of which the patient complained had not been lessened by a bowel movement.

Physical Examination.—This revealed nothing of note except a definitely localized point of tenderness below the right costal margin in the gallbladder area. A roentgenographic examination of the gallbladder and kidney were negative. As previously stated, it is to be regretted that a fluoroscopic examination was not made.

Operation and Result.—Nov. 19, 1920, a laparotomy was performed, a probable diagnosis of gallstones having been made. The gallbladder was normal. The appendix was practically normal, but was removed. When the duodenum was examined, a fair sized diverticulum was found. In its widest diameter, this diverticulum measured about three-fourths inch. The diverticulum was sessile and could easily be invaginated into the duodenum through a defect in the muscular wall which easily admitted the end of the little finger. The diverticulum was situated on the anterior wall of the duodenum, just on the duodenal side of the pyloric vein. There were no adhesions, no signs of an old healed ulcer, and no changes in the walls of the diverticulum. The diverticulum could easily be invaginated into the lumen of the duodenum. The communication between the duodenum and diverticulum was closed after invagination of the diverticulum by a purse-string suture, which was buried by some interrupted sutures placed in the duodenum.

Diverticulum surrounded by a purse-string suture. In the inset *(A)* the diverticulum has been invaginated and the purse-string suture tied.

The pain from which the patient complained subsided immediately. She was discharged from the hospital, December 1. She was examined, Jan. 19, 1921. There had been complete relief from the symptoms of which she formerly complained and she had gained some weight.

COMMENT

I believe that the pain from which this patient suffered was caused by distention of the diverticulum. The diverticulum had not developed on the base of an old ulcer. It apparently was an acquired diverticulum, caused by herniation of the mucosa through a weak spot in the musculature of the duodenum.

122 South Michigan Avenue.

INFLUENCE OF RESPIRATORY MOVEMENTS ON THE FORMATION OF PLEURAL EXUDATES*

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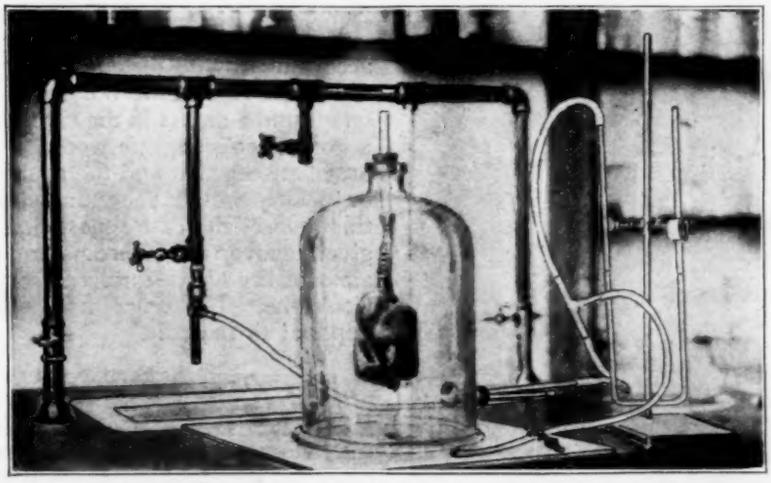
A frequent and striking characteristic of serofibrinous pleural exudates is the fact that they are very rapidly formed in large amounts. This characteristic is particularly evident in those infections of the respiratory tract, due to hemolytic streptococci, in which both the pleura and the lung are very edematous. In the recent epidemics of streptococcal bronchopneumonia this was so striking that often within a day or two following the onset of the illness an exudate of more than 1,000 c.c. would be found in one of the pleural cavities. In seeking an explanation, it seemed probable that the respiratory movements were important factors. The line of reasoning which suggested itself was somewhat like this: The presence of a negative pressure in the pleural cavity might tend by aspiration to draw fluid from a pleural surface which was edematous. Since the intrapleural pressure diminishes still more as the inspiration becomes deeper, one might expect more fluid to be aspirated into the pleural cavity in a condition of dyspnea associated with an increased depth of inspiration than under normal conditions. If, in addition to the dyspnea, the added factor of impaired inflation of the lungs were present so that during inspiration they could not be expanded to meet completely the depressed diaphragm or the thoracic walls in their changed position, the aspiration of fluid into the pleural cavities might follow to a still greater degree. It is interesting that in the bronchopneumonia due to hemolytic streptococci the factors are present which theoretically would make for a rapid accumulation of pleural exudate. It has been a common observation in this condition that, in spite of most extreme inspiratory efforts, the vital capacity remains low, a fact which demonstrates the impaired ability to inflate the lungs. The pathologic studies of MacCallum[1] and others have shown the existence of a marked peribronchiolitis with

* From the Department of Surgery, Washington University School of Medicine.

1. The Pathology of the Pneumonia in the United States Army Camps During the Winter of 1917-18, Monograph 10, Rockefeller Institute for Medical Research, 1919.

numerous areas of atelectasis, a finding which would seem to indicate that the occlusion of air passages by both surrounding and contained exudate would be sufficient in many cases to prevent normal inflation of the lungs. It would seem possible, therefore, that an enlargement of the thorax produced by deep inspirations which was associated with inability of the lung to expand sufficiently to fill up completely the enlarged thoracic cavity would result in the aspiration of fluid into the cavity, in much the same way that fluid can be drawn from any edematous tissue into an aspirating syringe.

The ideas were put to experimental test by constructing a model thoracic cavity, which is shown in the accompanying illustration. A pair of lungs was removed from a dog immediately after death, and the trachea was tied over a glass tube that passed through a rubber stopper at the top of a bell-jar. A rubber tube was connected with a glass tube that passed through a rubber stopper in an opening near the bottom of the bell-jar. This rubber tube was connected with an ordinary filter pump by which air could be exhausted from the bell-jar. With the lowering of the pressure in the bell-jar, air rushed down the trachea and inflated the lungs. By means of a T-tube interposed in the connection with the filter pump, connections were also made with a water manometer and with another open tube, which, by alternate clamping and releasing, permitted the alternate inflation and deflation of the lungs at any desired "intrapleural" pressure. By this means the lungs could be made to undergo regular rhythmic respiratory movements.



Apparatus for determining the influence of respiratory movements on the formation of pleural exudates.

When edematous lungs were used in the model, a copious "pleural exudate" could be produced within the bell-jar. But, contrary to expectation, most of the fluid poured out of the lungs at the end of expiration rather than at the end of inspiration. Often only a few drops would collect during inspiration, to be followed by several streams of fluid as soon as the expiratory act commenced. Sometimes, however, if the lungs were held in a condition of considerable inflation for a period of several seconds, as, for example, at a pressure of —25 or —30 c.c. of water, a small stream of exudate would flow from them, but this stream would never be so copious as that which would occur during and immediately following the act of expiration. For the purpose of the study, edematous lungs of two kinds were used, human lungs with bronchopneumonia removed at necropsy soon after death, and dog's lungs which had been made artificially edematous. In the case of the latter the lungs were made edematous by pouring from 50 to 100 c.c. of water down the trachea after the lungs had been set up in the bell-jar. In some instances a few drops of dilute acetic acid were added to the water in order to make the edema more intense. If methylene blue was added, it would invariably be found to appear much sooner in the exudate if respiratory movements of the lungs were induced than if they were allowed to remain passive. Usually a single inspiration would result in the appearance of the dye in the visceral pleura; and if the lungs were held in a condition of moderate inflation, the staining of the pleura would be seen to spread very rapidly over rather wide areas from single small foci. As soon, however, as expiration was induced by allowing air to enter the bell-jar, blue-stained exudate was seen to pour from the lungs.

The rapid appearance of the dye on the visceral pleura during inspiration seemed to be explainable perhaps on the basis of a filling of the pleural lymphatics as a result of an aspiration effect induced by the diminished pressure outside the pleura. The explanation of the greater formation of exudate during the process of expiration is more difficult. It is clear that if the pleura becomes saturated with fluid during the process of inspiration, then the sudden reduction in surface necessitated by expiration cannot be accomplished unless this fluid is squeezed out. The exudate, therefore, which under the conditions of the experiment pours out copiously during expiration, represents fluid that has been squeezed out of the edematous pleura as a result of the sudden diminution in surface necessitated by the act of exhalation.

It is recognized that the conditions of the experiment are not identical with those which are encountered in life, since in the model the cohesive force is absent which is an important factor in keeping the visceral and parietal pleurae in contact during life, and also the lungs in the experiment are, of course, dead. The latter fact apparently introduces many complicating factors, such as increased diffusibility of the exudate through the lung and pleura. Nevertheless, lungs which are attacked by severe infections, such as in the streptococcal bronchopneumonias, frequently contain considerable areas of necrosis even during the life of the patient. The phenomena which have been noted in the experiments, therefore, must often occur to a more or less degree during life.

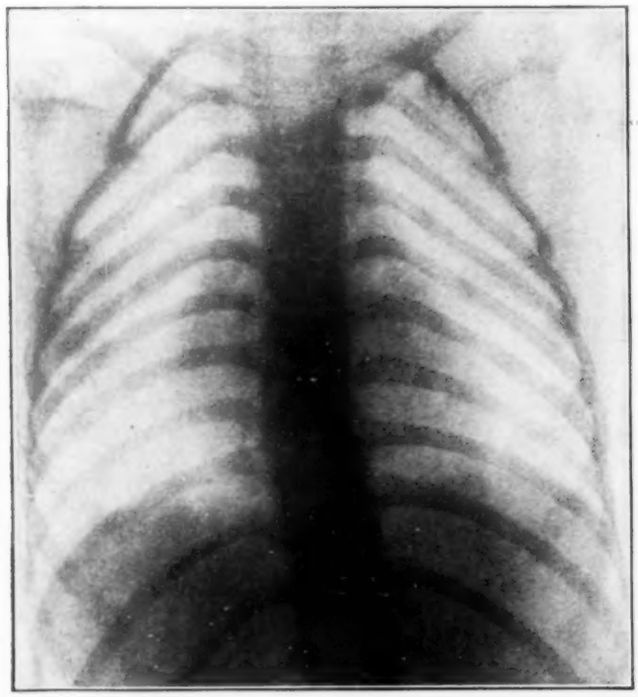
Phthisis in Malay States.—The cases of phthisis in the federated Malay states have been increasing in number very considerably. In Singapore, for instance, the crude death rate was 4,840 per million in 1916. More cases occur among males (6.04) than among females (3.81). Bovine tuberculosis does not exist there; among more than 250,000 pigs killed in the Ipoh abattoirs during the past four years no case of tuberculosis was found. The disease is, therefore, all of the human type. Von Behring's theory of infection is discredited in Malay, since Chinese children and adults seldom take milk, and the cattle are at present free from the disease.

CONGENITAL DORSAL SCOLIOSIS DUE TO SPINAL DEFECT

REPORT OF CASE

CARROLL L. STOREY, M.D.
AND
CARL C. BIRKELO, M.D.
DETROIT

The term "congenital scoliosis" is used here because it is believed that in no place in the literature has there been a serious attempt to limit the term to those cases of lateral deviation of the spine in which the etiologic factor became operative after the birth of the child, even though that factor might be unknown. Scoliosis is the name given to an end-result regardless of the cause, and on this basis congenital scoliosis is a perfectly proper term. Thomas [1] objects to the term when



Roentgenogram showing absence of eighth rib on left side; rudiment of eighth dorsal vertebra with fully developed right eighth rib; fully developed cervical rib on left side; rudiment of cervical rib indistinctly showing on right.

the deviation is due to developmental defects in the bony framework, but the case report submitted by him is a description of a congenital bony abnormality.

Putti, quoted by Hodgson,[2] makes this classification of congenital deformities of the vertebrae and ribs: (*a*) numerical variations concerning the column as a whole; (*b*) morphologic variations concerning the individual elements of the vertebral column in their form; (*c*) numerical plus morphologic variations or a combination of the first two mentioned conditions; (*d*) faulty differentiation concerning not only the metameric but also the regional differentiation, and (*e*) pathologic malformation.

The case reported below is one of numerical plus morphologic variation.

Putti further states that "a costal anomaly is inseparably connected with a vertebral anomaly. . . . The converse of this proposition, however, is not necessarily true." This statement is borne out in the present case.

Reports of cases of cervical ribs have been appearing in the literature in greatly increasing numbers, and the relation between this anomaly and the disturbed function of the soft parts of the neck, particularly the brachial plexus, is being gradually worked out. The literature on cervical ribs as a cause of symptomless cervicodorsal scoliosis is very meager. The same holds true in respect to dorsal scoliosis due to defects in the middorsal region. The latter is not surprising in view of the fact that vertebral defects are more commonly found at the points of transition from one type of segmentation to another. In fact, Drehmann [3] says: "The rudiment is always found in the region of transition from cervical to dorsal vertebrae. A compensatory vertebra is sometimes found in the transition from dorsal to lumbar vertebrae on the opposite side." The ten cases cited by Drehmann bear out his generalization; but from subsequent reports based on more extensive use of the roentgen ray, one is compelled to generalize about as follows: The degree of defect, both numerically and morphologically, usually decreases according to the distance the part is away from the transition regions of the spine. According to this, if one found a defect in the eighth dorsal vertebra causing a dorsal scoliosis, one would expect that all the vertebrae between that and the transition point, either above or below, would show increasing abnormalities. In this respect the case reported does not follow the rule given above, for there is no defect below, and no abnormality above until the cervical region is reached. Cockayne,[4] Hartung [5] and others have cited cases opposed to the rule.

REPORT OF CASE

History.—F. K., a girl, aged 8 years, came to the clinic, Nov. 3, 1920, because the right shoulder was higher than the left. The mother states that this has been the condition since birth. No history of congenital defects in her ancestors could be made out, although information on this point was meager. The child had always been delicate, subnormal in weight and size. There had never been any disturbance in the functions of the upper or lower extremities, or any symptoms pointing to involvement of the central or peripheral nervous systems.

Examination.—The general examination was essentially negative except for indications of active tuberculosis at both apexes. The patient stood in a slovenly attitude, with round shoulders, flat chest and prominent abdomen. In the erect position the right shoulder was carried higher than the left; there was no lateral displacement of the trunk on the pelvis, and no rotation of the ribs or the shoulder girdle. The ribs had no deforming angulation. The spinous processes of the sixth, seventh and eighth dorsal vertebrae were rather sharply displaced to the right, the greatest deviation amounting to one-half inch. No secondary curves appeared above or below. The flexibility of the spine was somewhat limited in the middorsal region, and normal elsewhere. Twelve ribs could be palpated on the right side, twelve on the left. The upper left rib appeared, however, to be attached to the seventh cervical vertebrae. Only eleven dorsal spinous processes were palpable.

Stereoscopic plates of the spine revealed two points of abnormality, namely, in the seventh cervical and the eighth dorsal vertebrae.

The seventh cervical vertebrae had a fully developed rib on the left side and a short rudimentary rib on the right. The

1. Thomas, H. B.: So-Called Congenital Scoliosis, J. A. M. A. **64**: 305 (Jan. 23) 1915.
2. Hodgson, F. G.: J. Am. Orthop. A. **14**: 34 (Jan.) 1916.
3. Drehmann: Allg. Med. Centr.-Ztg. **75**: 21, 1906.
4. Cockayne: Proc. Roy. Soc. London, Sect. Stud. Dis. Child., 1913-1914, p. 100.
5. Hartung, A.: Am. J. Roentgenol. **3**: 430 (Sept.) 1916.

eighth dorsal vertebra was rudimentary and consisted of a small triangular body wedged in between the seventh and ninth vertebrae on the right side with a unilaterally developed pedicle, transverse and spinous process in no respect different from the corresponding parts on the other vertebrae above and below it. A fully developed rib articulated with it on the right side, and there was no attempt at a corresponding rib on the left side. Thus, there were twelve fully developed ribs on each side, but the first rib on the left was cervical, and if we count the rudiment from the seventh cervical vertebra on the right, we have thirteen ribs on that side. There was a dorsal scoliosis with the convexity of the curve to the right, the apex of the curve being at the eighth dorsal vertebra, the rudiment of which was the sole cause of the scoliosis. There was apparently no rotation of the bodies of the dorsal vertebrae concerned in the curve. The spine was otherwise normal, consisting of seven cervical, eleven fully developed dorsal, with a rudimentary eighth dorsal, and five lumbar vertebrae. The sacrum, coccyx and pelvic bones were normal.

PALPITATION AND ITS CLASSIFICATION IN CERTAIN CASES

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NEW YORK

One of the most interesting problems in cardiology is the determination of the nature of the attacks which people describe but the physician is unable personally to witness. A careful study of the findings, though, will often be sufficient for the foundation of a definite opinion. The electrocardiogram of Figure 1 gives a definite clue to the nature of an attack of frightful rapidity of the heart which lasted over a period of several days, and pointed out the line of procedure which led to a complete restoration of normal rhythm. During

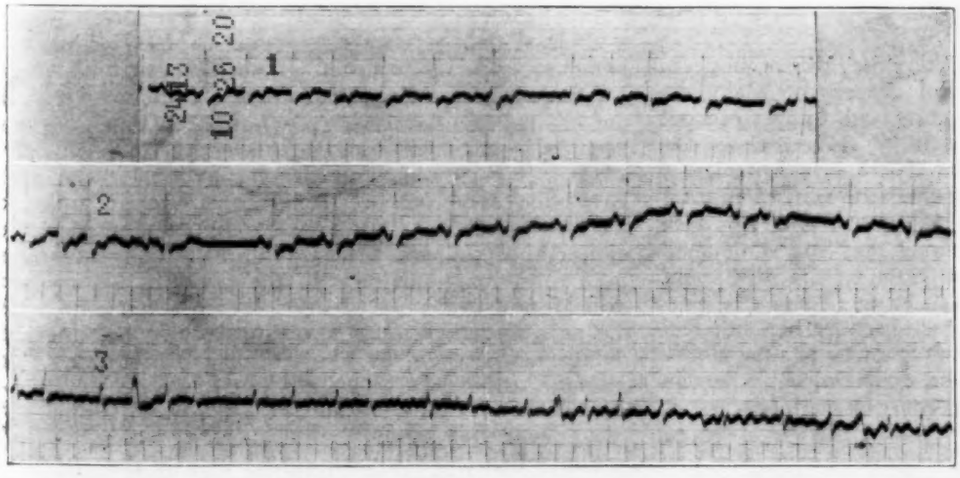

Fig. 1.—Electrocardiogram showing fibrillation of the auricle, but with a short series of normal beats.

the latter part of the second lead of the tracing, which at its beginning bears all the characteristics of fibrillation of the auricle, are found a number of beats with the normal rhythm except for one auricular premature contraction. The second lead was unfortunately discontinued before the series of regular beats had come to an end. During the third lead, the fibrillation picture is shown as before. This woman was taking digitalis in considerable doses.

The few regular beats show the tendency of the heart to resume its normal rhythm, and a careful questioning of the patient showed that her original attack consisted of a great rapidity of the heart that lasted a great many hours and which finally yielded to digitalis. From her description, her heart was regular when rapid. When she came to me there was nothing to distinguish her from the average person suffering from fibrillation, except the few regular beats in the electro-

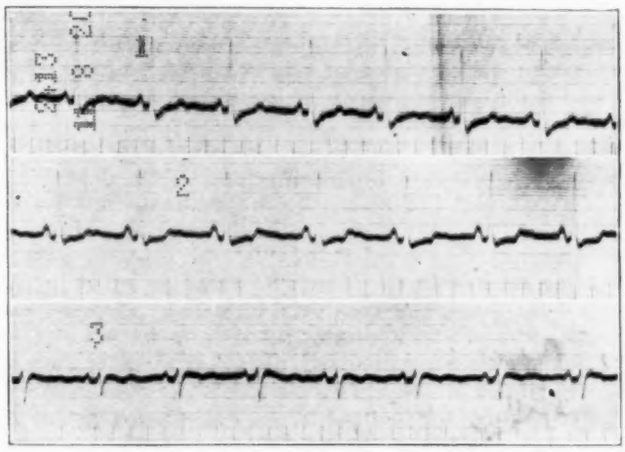

Fig. 2.—Electrocardiogram from the same person as Figure 1, showing complete restoration of rhythm.

cardiogram. The foregoing history was not elicited until afterward. In the belief that the paralysis of the auricle was due to the action of digitalis in a case of auricular flutter, the drug was entirely stopped with the expectation that the heart would resume its normal rhythm. This change actually took place, as shown on the electrocardiogram of Figure 2, which was taken twelve days after that of Figure 1.

Curiously enough, it will be perfectly possible to give this person a moderate amount of digitalis in the future without reproducing the fibrillation, although the fibrillation might have continued much longer if the drug had not been interrupted.

With people who suffer from repeated attacks of auricular flutter, it is good policy to keep a certain amount of digitalis in the system so that an attack may be more quickly controlled when it occurs. Not all attacks of flutter, however, are converted into fibrillation by digitalis. In many cases the attack terminates abruptly on the use of digitalis, and the heart is at once made regular, except, perhaps, for the occurrence of premature contractions for a short time.

109 East Sixty-First Street.

Specialization.—Division of function and cooperation in a scheme in which every one plays a skilled and useful part is in fact the essential characteristic of modern medicine.—Brend.

THE NEURASTHENIC PATIENT AND THE INTERNIST*

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Although practically discredited and discarded as the name of a disease, neurasthenia is still used, for lack of a better designation, to cover a certain well known, easily recognized syndrome, characteristic of a type of abnormal reaction. So the present tendency is to speak of neurasthenic states or psychasthenic states, meaning a condition of increased irritability of the nervous system, with diminished capacity. Naturally, this state will give a certain tone to the clinical picture whenever subacute or chronic disease develops.

As seen by the internist, the neurasthenic patient usually comes with a self-made diagnosis, not of mental or nervous disease, but of visceral disease, gastric, cardiac or intestinal. The symptoms as given in the textbooks (vague, uncomfortable feelings; depressions; fears, etc.) are related later as of little importance, or erroneously as evidence of disturbance in the organ on which the attention is focused.

Frequently the complaint is not of symptoms as understood by the physician, for we understand a symptom to be a marked variation of some function, but he complains of normal functions. He can hear and feel the heart beat; the blood can be felt streaming through the veins; something throbs in the abdomen; there is described an alternating tightening and relaxation, with a squirming sensation in the epigastrium (normal gastric movements), or a feeling as if everything were dead (atony).

One will say that everything he eats "lodges right in his stomach and remains there for two or three hours." Why? Because he can feel it there. Or his stomach "is sour." Does he have burning, sour eructations? No. "It just feels sour." Examination reveals a normal acidity.

Another states that "something begins to move in the right flank, passes up and across the abdomen, returns backward, crosses again, and finally escapes with the sound 'google, google'!" (Normal colonic movements.)

Constipation may be complained of, and on inquiry it will be learned that the bowels move once or twice daily; the stool will be examined and found normal. Why does he say he has constipation? "Because there is something still in the bowel."

One complains of heart disease because he "can feel the heart working hard as if it is laboring against something." There is no dyspnea on exertion, but when he lies down at night the heart *continues to beat* so it shakes the bed and he is "therefore unable to go to sleep."

Autointoxication is not unusually given as the cause of symptoms. Inquiry reveals the fact that the actual symptoms are mental and physical lethargy, somnolence in the daytime and restlessness at night, inability to focus the attention or maintain sustained effort at any work, and an equal inability to practice either mental or physical composure.

It is often most difficult to get a satisfactory history because there seems to be such a flight of ideas that the patient is unable to answer the simplest question directly. To the question, "Do you have a good appetite?" the answer in a certain case was: "Well, I will tell you what I eat. You know I can't eat starches or fats or sweets on account of the gas; and I don't take fruits on account of the acidity—they make the blood acid, you know. My husband wants me to take plenty of raw eggs. Don't you think that eggs make you bilious? So, whenever I have these attacks, I take some of these pills. I wish you would look at them and tell me whether they are good or not."

Not only does this type of patient present a peculiar class of symptoms, but the reaction to the symptom is easily recognized as differing from that of other patients. For example, when we analyze the case, we find that it is not, after all, the symptoms named that distress the patient so much as his interpretation of them. He is more interested in the origin, mechanism and significance of the symptom than he is in obtaining relief. (Introversion.) In the interval between visits he takes notes of his symptoms and on the next visit, when he is asked, "How have you felt since the last visit?" he takes out these notes and recounts, not how he has felt, but what he did or thought and his interpretation of the effect on the function he has had focused under observation. (Elaboration of ideas on a false basis.)

The family history is usually definitely bad, and I believe it would always be found to be so if carefully taken; but sometimes the patient is unable to give information on this subject, and sometimes we fail to avail ourseleves of the facts accessible. As an example I give the facts that I was able to obtain in one of my cases:

The paternal grandmother of the patient had pulmonary tuberculosis when his father was born. The father in later life developed cardiovascular disease and has been a chronic grunter for twenty years. The mother was living and was a very hard working woman on a farm during her child-bearing period. There were twelve children in this family; six died before maturity—at least one of tuberculosis; of the six living, one has chronic spinal arthritis, whether tuberculous or not I cannot learn; one has had definite epileptic seizures; one has marked depressive psychosis, for which she has been in a state institution; another, the youngest, now 24, has hypertension and alveolar pyorrhea; the fifth has some symptoms of renal tuberculosis; and the sixth—the patient—was in the psychopathic ward in the military hospital, was discharged for disability, and once tried to commit suicide. In the previous history are to be found evidences of difficulty in keeping up with the pace at school, but more especially in meeting the requirements when the stress of life is first felt. For example, there will be an account of "a feeble childhood," "always weak," "always had a weak stomach," "was never very strong."

The actually present symptoms usually date from a period corresponding to some special stress either physical or mental, and frequently both; when young men work their way through the university—day study and night work; or when they first assume responsibility; when they undergo criticism; and when young women work in the day and nurse some dependent relative at night; or in young married women after their first pregnancy. Existing chronic infection is more important than recent acute infections.

The physical condition of these patients is usually striking. In the language of the Orientals, "Allah has written their fate on their foreheads." In my experi-

*Read before the Medical Society of the District of Columbia, Jan. 19, 1921.

ence they resemble each other so much as to suggest a family relation: long head, prominent cheek bones, receding chin, prominent Adam's apple, loose jaw, prominent lips, large eyes, dilated pupils, sad, worried expression. Physically there is found the habitus of universal congenital, physical and psychic asthenia, as described by Stiller. The pulse is slow; the blood pressure low; the vasomotor tone poor, cold hands, clammy feet; the vasotone index of Crampton is low; the reflexes are usually exaggerated. The gastroenterologist finds atonic dyspepsia, constipation and fickle appetite; the cardiac expert, neurocirculatory asthenia; the electrotherapeutist, splanchnic neurasthenia; the neuropsychiatrist, neurasthenia, psychasthenia, neurosis or endocrine imbalance; the surgeon says, with some truth, that this patient should never have assumed the upright position but should still be walking on all fours. In art, this type is well portrayed by Botticelli. In religion, he is a Calvinist—"Hell is naked before him and destruction hath no covering."

Finally, when some method of treatment is proposed for relief or amelioration, whether it be diet, exercise, hygiene, alteration of habits, or a surgical operation for some chronic abdominal condition, each point must be explained, counter arguments met, unfounded objections overcome, and when all this is apparently concluded to his satisfaction, he wanders to another physician, to relate anew the absorbing symptoms. He is not seeking a cure, he is collecting impressions and searching for a diagnosis that will appeal to his particular type of imagination. One such patient returned and told me that he had consulted another physician who, without any examination, but simply by listening to an account of symptoms, told him immediately what his trouble was—namely, neuralgia of the solar plexus. This satisfied him. Another, with an anomalous development of the colon and general visceroptosis, returned and stated that he had consulted another physician, one very popular and successful. He said the doctor was a wonderful man, that he made him feel better just as soon as he put his hands on him. On inquiring what treatment had been advised, he said he was told that he had falling of the bowels. And the remedy? It was simplicity itself: He was advised to eat plenty of beans —these, as he well knew, would form plenty of gas and would float the intestines up where they belonged!

As specific examples of such a type, four cases are presented:

REPORT OF CASES

CASE 1.—Mr. T., aged 32, single, business man, complained of "intestinal trouble, iliac stasis and autointoxication." Seven years before he had appendicitis, for which an operation was performed and drainage used. Three years after this he was again operated on and "adhesions were broken up." Recently he had felt that the bowels were not acting well, and had observed his movements very closely. He described periods of feeling "dull and dopey," and he "lacked energy." At times he felt "as if something was there"—placing the hand over the lower right abdomen. At other times he "felt something stop in the abdomen." He had had repeated chemical and roentgenologic examinations made, the only finding being pericecal adhesions, and some stasis.

The bowels moved without laxatives, but with some irregularity. The patient was engaged to be married, but was in great doubt whether he should marry in his present condition. He noted that his attacks were always worse when he was returning from a visit to his fiancée in a distant city. Not being relieved by diet or massage, he desired to have a surgical operation. His medical attendant advised against such procedure, but gladly agreed to have him consult an eminent abdominal surgeon. He also advised against surgical treatment.

The diagnosis was: neurosis, anxiety type, based upon some mental conflict; the anxiety, by repression being dissociated from the real cause, becomes attached to the known physical condition, of little real importance.

CASE 2.—A man, aged 47, a law clerk, married and with one child, whose father died of tuberculosis at the age of 45, and whose mother was nervous and in an institution for mental diseases, had had mild children's diseases, but no scarlet fever, diphtheria or rheumatic fever. He led a sedentary life, used alcohol moderately and regularly, smoked excessively until recently, and ate moderately, his diet being full and mixed. He complained of attacks of indigestion and heart trouble. These began about five years before and were described as "a sinking sensation in the epigastrium, which gradually spread to the head and whole body," followed by the eructation of gas. The attacks occurred most frequently after he had retired and was just about to fall asleep, or early in the morning before he arose. On the occasion of the last attack he awoke with a start, "feeling as if something terrible was about to happen." He felt "a sinking sensation in the stomach, weakness in the legs, and palpitation of the heart." On these occasions he had to get out of bed and read for hours before he could again go to sleep. He had been told that he had a heart lesion, and took strophanthus, nitroglycerin and bromid. Physically he was of small stature and poorly nourished with flabby musculature and a pasty complexion. There was mild bronchitis and a compensated mitral lesion. Examination of the sputum, blood, urine, gastric contents and feces revealed nothing of further importance. He could eat a hearty meal without discomfort or pain, but was afraid to leave the house to go to work or to the physician's office for fear of "an attack" in the street or on the car.

In this case the physical findings were not considered adequate to account for the symptoms, and further inquiry into the history and personal habits was made because the neuropathic history, the character of the symptoms, the time of their appearance and the condition of well-being between the attacks suggested a neurosis. It was learned that he had practiced coitus interruptus for several years. He was given proper advice with regard to his habits, heart stimulants were discontinued, and diet prescribed, and when last seen, five months later, he had had only one attack and was practically well. The diagnosis was: anxiety neurosis.

CASE 3.—A man, aged 47, a lawyer, complained of autointoxication and desired to have his liver and digestion examined. The presenting symptoms were: periodic attacks of depression with mental and intellectual inefficiency, during which he would be unable to go into society, read, or do any intellectual work, such as writing a brief or working on a textbook which he was writing. During these periods he would be unable to do anything but "sit, look at the wall, and smoke." At such times he slept unusually well, being able to go to sleep at any time and sleep the clock around without difficulty; but he did not feel refreshed by the rest. Following this there would occur a period of great mental activity when he felt alert, desired to write or work and could accomplish a great deal, writing on his briefs or textbook for hours into the night, his work being complete and satisfactory.

Inquiry into his family history revealed that his mother was a very pessimistic person, and she seemed to have inherited this temperament from her mother. The patient had two sisters and one brother similarly affected. At the age of 19 he had a breakdown while at college, and was much depressed and unable to work. Since that time he had had many recurrent attacks as described, and had been examined many times by several different physicians; but nothing had been found except chronic prostatitis, and urethritis, which had been treated without result so far as his complaint was concerned. He felt that he was benefited by any laxative, Turkish baths, and enemas, but the periods of depression and mental inefficiency continued to recur.

The psychiatrist to whom I referred him wrote: "The case appears to be a very clear one from the psychiatric standpoint. I think without question he is suffering from one of those very mild forms of manic-depressive psychoses which we term cyclothymia. These very mild cyclical cases of this psychosis are rarely recognized because they are not sufficient to warrant

any suspicion of mental disorder, and therefore the patients do just as this man has done, gravitate about between the genito-urinary and gastric specialist, with occasional punctuation by the ophthalmologist, et al. None of the specialists is ever able to find anything, and that is the crux of the whole situation and should lead to a suspicion of psychosis."

CASE 4.—A man, aged 20, single, complained of indigestion. While in the street car about four hours after a meal he had a tight feeling in the epigastrium, palpitation, choking sensation, could not get his breath, was bloated, and had pain over the heart. He took some medicine, belched, and was relieved. He complained of a dull, full feeling in the head; smothering sensation; palpitation; trembling, jumping and gurgling in the stomach; he fatigued easily; he slept poorly, being unable to go to sleep if he awakened in the night; there was frequent micturation, and sexual hyperesthesia, with weakness. His father died of a neoplasm of some kind.

He presented the habitus of Stiller; vasomotor instability; dilated pupils; acne vulgaris; some symptoms suggestive of gastric ulcer, namely: burning three hours after meals; hyperacidity; occult blood in gastric contents; positive Einhorn string test, and slight loss of weight. The temperature was normal. No abnormal physical signs were detected in the lungs. Six months later, a little blood was coughed up and tubercle bacilli were found.

COMMENT

It will be noted that none of the foregoing cases is neurasthenia, and that is the point which I wish to emphasize, namely, that most, if not all of the cases usually classed as neurasthenic properly belong in one of these categories: (1) neurosis, or anxiety neurosis; (2) mild, rare or atypical psychosis, e. g., manic-depressive psychosis; dementia praecox; (3) incipient tuberculosis; (4) low grade cryptic infection; (5) early exophthalmic goiter; (6) cerebral arteriosclerosis.

Neurasthenia should be considered as an abnormal, imperfect, inadequate type of reaction; expressive of auto-erotic fixation; an infantile type of reaction in which the individual takes an undue interest in the functions of his own body, of which he is acutely and abnormally conscious. On these sensations he often erects a more or less organized system of false ideas (auto-erotic introversion).

There are several important factors in the pathogenesis of this condition, each of which should be noted and properly valued in forming a clear and accurate conception of the condition with which we have to deal. In almost every case a bad hereditary influence will be noted. Tuberculosis seems to rank first in frequency and importance and is believed to be especially damaging when occurring in either parent about the child-bearing period. It is sufficient simply to mention cancer, syphilis, alcoholism, and overwork and privation on the part of the mother. Conditions modifying development and growth during infancy, childhood and adolescence are equally important. As it is now believed that practically all primary infections with tuberculosis occur in childhood, the etiologic importance of this disease will be apparent. However, severe infections of any kind, by their damaging effect on nerve centers and the endocrine system, often determine a physical and psychic inferiority that will mark the individual throughout the whole of life. To see one healthy, well formed, cheerful, good natured child pass through a severe, acute intestinal infection and then change to a puny, slender, fretful, nervous, irritable youngster is convincing.

The inherited and acquired handicap of inferiority may be borne fairly well during the sheltered period of life; but when the pressure and stress of life are felt, its care, responsibility, competition and criticism, then some relatively slight incident (infection, toxemia) will act as the precipitating moment, and the difficulty in the presence of a handicap of achieving satisfaction in the orderly pursuit of a remote goal will manifest itself in an abnormal type of reaction recognized as a retreat to the infantile type of thought and behavior.

In the management, I leave psychic traumas to the consideration of the phychiatrist, and emphasize the importance to the physician and specialist of existing physical condition and organic disease. These should be carefully investigated, recognized, understood and dealt with in the most thorough manner. Early advice and cooperation with the neuropsychiatrist should not be neglected, for, as the cases reported show, some very serious psychoses may begin as apparently mild neuroses, and serious harm may result if the surgeon or the internist simply stamps the case as neurasthenic and awaits developments.

CONCLUSIONS

The neurasthenic syndrome is a type of reaction which may modify and partly obscure the symptoms of serious physical or psychic disease.

Congenital and acquired physical inferiority should be considered important predisposing causes.

The immediate cause of such a reaction may be psychic or physical, or both combined.

In treatment, physical deficiency and organic disease should be recognized, and relieved as far as possible in order to aid readjustment on the psychic level.

1720 Connecticut Avenue.

Clinical Notes, Suggestions, and New Instruments

FOREIGN BODY IN THE JAW

REPORT OF A CASE

E. M. SUNDELÖF, M.D., BOSTON
Radiologist, Lynn General Hospital and New England Hospital for Women and Children

History.—T. B., a boy, aged 2 years, had been run over by an automobile in October, 1920, and had been brought to the Lynn General Hospital for contusions of the head and body. He had remained in the hospital only a few days because he was apparently in excellent condition in spite of the accident. No roentgen-ray examination was made of him at that time. There was no other history of injury. Although the parents, who were uneducated, had noticed that the child's left cheek was swollen after he came home from the hospital and remained swollen, they did not worry about it. Even when sinuses appeared under the angle of the jaw they did not take the child to a physician until the latter part of January, when they brought the child to the outpatient department of the Lynn Hospital.

Examination.—The left jaw and cheek were markedly swollen. There were three sinuses below the angle of the left lower jaw. These drained pus copiously. The lower jaw could not be opened. The child could not chew. He could scream, but was unable to talk distinctly. Palpation within the mouth was impossible because the jaws could not be opened. This was thought to be due to the marked swelling. When the upper lip was raised there seemed to be a marked swelling of the gum over the left bicuspid region. The child was referred to me for a roentgen-ray examination. The roentgen ray revealed a marked lack of bony detail of the ramus of the lower left jaw. The submental glands were markedly swollen, and showed as white shadows on the plate. Beginning at about the angle of the left lower jaw, extending across the ramus and up toward the floor of the left antrum

and the floor of the nose was a white linear shadow in the roentgenogram which was thought might be an artefact.

Operation and Result.—Dr. M. C. Smith found a lead pencil 3½ inches long extending from the angle of the lower left jaw diagonally beneath the jaw. It locked the upper and lower jaws, since it passed through the antrum. It was dislodged with great difficulty. The child made an uneventful recovery.

How the pencil had entered or where it had entered no one knows, but presumably it must have been driven into the child's jaw in October at the time of the automobile accident.

525 Colonial Building.

A MODIFICATION OF THE BALDY-WEBSTER OPERATION

WILLIAM R. BAGLEY, M.D., DULUTH, MINN.

The Baldy-Webster operation for retroversion is one that is generally accepted as the best of those using the proximal portion of the round ligament, and in my own practice it is used in preference to any other type of ligament shortening.

The great objection to it is that the suspension of the uterus is trusted to the weakest portion of the cord. I have known of practically no recurrences of retroversion following this operation when there had been evidence of good union between the ligaments and posterior uterine wall.

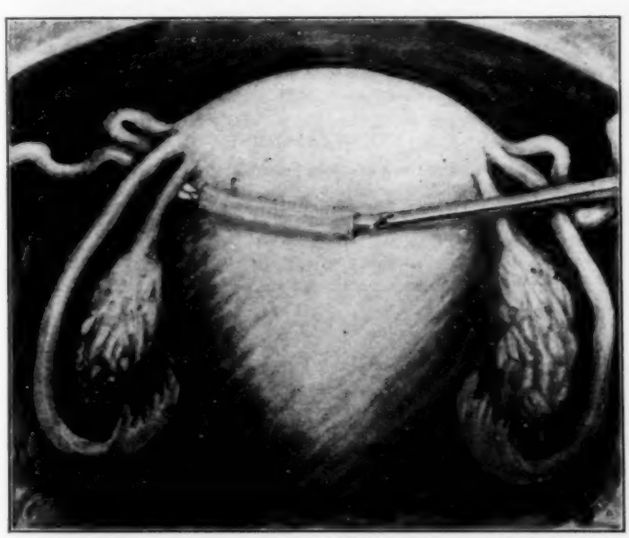

Fig. 1.—Forceps have been introduced into the central incision under the peritoneum, and by blunt dissection are carried to the lateral incision, where the round ligament is grasped after passing it through the broad ligament, as in the original Baldy-Webster operation.

To attain this union it is necessary to suture the ligaments at several points with chromic gut to insure enough prolonged irritation to secure firm union.

This suturing has two objections: (1) It strangles the circulation in various sections of the ligaments, and (2) the inflammatory reaction connected with the absorption of these sutures encourages adhesions from omentum and gut with more or less discomfort to the patient.

It is with the object of eliminating these objections that I have devised the following modification of the technic:

At the point at which the ligaments are to meet on the posterior surface of the uterus, a longitudinal incision from 1 to 1½ inches in length is made through the uterine peritoneum. Next a half inch vertical incision through the uterine peritoneum is made below the horn of the uterus on each side in line with the perforation in the broad ligament, as in the original technic of the Baldy-Webster operation. These lateral incisions are made as far out on the lateral uterine wall as will avoid the plexus of vessels at this point. Suitable fine pointed curved forceps are inserted in the median incision between the uterine peritoneum and the muscle, and by blunt dissection burrowing the muscle are carried to the lateral incision. Any oozing that may result from this separation readily stops when the ligaments are pulled into place. If the uterus is not too large, the same forceps can penetrate the broad ligament between ligament and tube as in the original operation and, grasping the ligament, pull it through the new canal to the central point. The same procedure follows with the second ligament. The two ligaments, now meeting in the central incision, are united by two stitches of No. 2 chromic gut on a short, full curved needle, which passes first

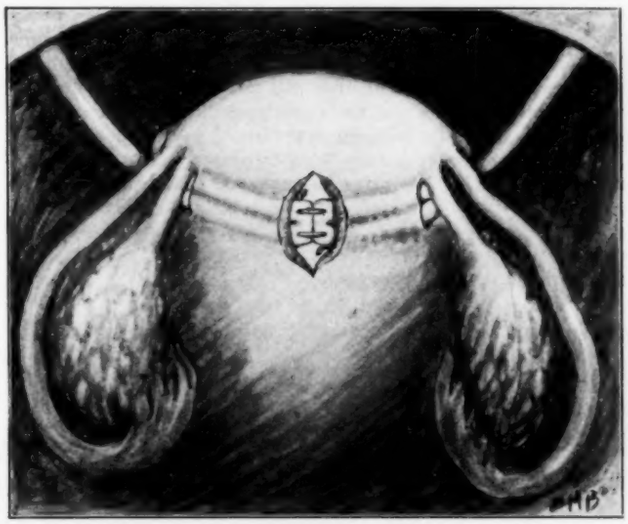

Fig. 2.—The round ligaments are in place and sutured; the suture knots are underneath the ligaments.

into the uterine wall and then through the center of each opposing section of ligament. This brings the knot underneath the ligament so that its irritating influence is not next to the covering peritoneum. Closure of the peritoneum is made by 00 plain gut.

The results of this operation are: (1) a union between uterus and ligaments which never gives way because we have a union of peritoneum on one side and uterine muscles on the other; (2) minimum interference of circulation in the ligaments, and (3) minimum tendency to outside adhesions.

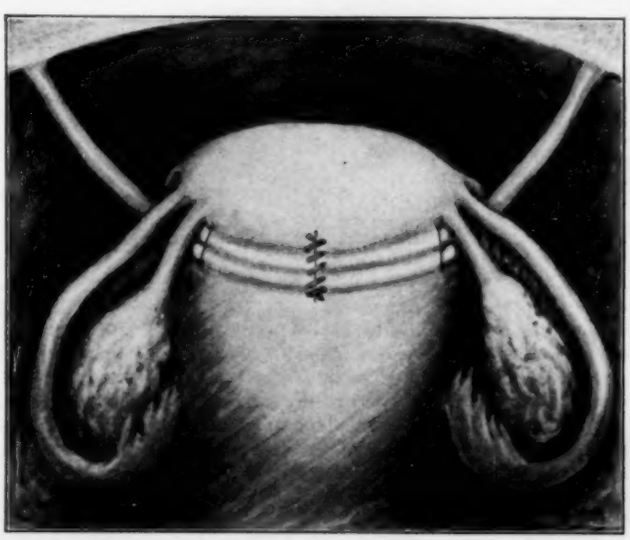

Fig. 3.—Completed operation: The central incision is closed with 00 plain catgut; the lateral incision may be likewise sutured if there is any reason for doing so.

A woman recently operated on for an abdominal condition had had five full term pregnancies following a Baldy-Webster operation, and the uterus was still in excellent position. An interesting finding in this case was that where the round ligaments passed through the broad ligament on the uterine side there were no attachments to the distal portion of liga-

ment. The frequent stretching and contraction had produced a nicely rounded orifice on each side through which the ligaments slid smoothly.

501 Woodland Avenue.

SUPERNUMERARY BREAST ON BUTTOCK

PERCY A. PERKINS, M.D., MEMPHIS, TENN.

While we find many reports of supernumerary mammary glands (polymastia) and other malformations, such as gynecomastia, it is seldom that we find all of these features in one case. My reason for reporting this case is its combination of so many unusual features.

As a rule, these accessory breasts are of a most rudimentary nature, and in few cases have they secreted milk. Again, most of the cases reported have been in the female, usually on the anterior thoracic wall or anterior abdominal wall, near the mammary line, though other locations, as the axilla and thigh, have been reported.

Supernumerary breast on right buttock.

To find a well developed breast like this in a man is rare, and one would expect some associated or irregular development of other organs, and to find that the man leaned toward the effeminate; but such is not the case in this instance.

Another feature that is interesting is that even though this gland is located in a place subjected to much traumatism and liability to injury, it has never given him trouble and is free from any mass or tenderness.

REPORT OF CASE

A white man, aged 59, married, a steel worker, formerly a prize fighter, who gave no history of syphilis in the family or congenital abnormalities, who used alcohol freely, and whose children were normal, said that he first began to give serious thought to a tumor on the buttock at about the age of 17 years. At that time it began secreting a fluid which at times was whitish but usually of a prune juice color. He stated that this took place monthly and lasted only a few days at a time. This secretion caused him some inconvenience by wetting his clothes, and it was necessary to wear a pad over it. At the age of 33 the secreting stopped. It has never caused him any pain or trouble of any kind. The man was well developed. No abnormalities of development were found. He had two normal breasts (male). On the right buttock there was a gland about the size of an orange. The gland had the sagging appearance of a breast in a woman of the same age. The nipple was well developed, and slightly larger than usual. No tenderness or masses were found.

The man had nothing of the effeminate about him. His voice was thoroughly masculine and his habits and work were also of very masculine variety.

THE PREPARATION OF SUGAR-FREE CREAM FOR DIABETIC PATIENTS *

FLORENCE H. SMITH, B.S., AND W. D. SANSUM, M.D., SANTA BARBARA, CALIF.

An easy method for the preparation of small amounts of sugar-free cream is described by Williamson.[1] "To about a pint of water, placed in a large drinking pot or tall vessel, 3 or 4 tablespoonfuls of fresh cream are added and well mixed. The mixture is allowed to stand from twelve to twenty-four hours, when most of the fatty matter of the cream floats to the top; it can be skimmed off with a teaspoon easily, and upon examination it will be found practically free from sugar." A repetition of this process requiring an additional twenty-four hours produced a cream that was sugar-free.[2] This method suggested the use of the dairy cream separator for the immediate skimming of cream from similar but larger mixtures of cream and water.

EXPERIMENTS

One gallon of cream was poured into a 10-gallon milk can. The can was filled with water at the proper temperature for skimming, and the mixture thoroughly stirred. The separator was adjusted to deliver through the cream outlet one part out of the original ten parts. The cream was separated and the reservoir and separator bowl rinsed, while still running, by the addition of more warm water. This cream contained much less sugar than the original. On repeating this process, the cream became sugar-free.

ANALYSES OF MILK AND CREAM

	Carbohydrate Pct.	Protein Pct.	Fat Pct.	Ash Pct.
Cream, as purchased	2.36	2.28	34.0	0.52
Cream, after first separation	0.16	0.40	32.0	....
Cream, after second separation	0.00*	0.23	32.0	0.05
Milk, as purchased	4.46	3.70	3.6	0.73
Milk, after first separation	0.15	1.57	3.4	....
Milk, after second separation	0.00*	0.03	2.5	0.04

* Less than 0.01 per cent.

The same process applied to milk resulted in a sugar-free product, but in all of these experiments the cream was churned to fine particles of butter. This difficulty has never arisen in the preparation of the sugar-free cream.

The carbohydrate was determined by the colorimetric blood sugar method of Folin and Wu.[3]

COMMENT

The loss of sugar and salts alters the flavor of the cream. This may be practically restored by the addition of the proper amount of common salt, from 0.5 to 0.7 per cent., and a small amount of saccharin. The saccharin should be added just before serving, since it becomes bitter if in solution for a long time.

The method is simple, inexpensive and practical. Any dairy can prepare such cream with no additional machinery and at the expense of very little extra time.

* From the Memorial Metabolic Clinic, Cottage Hospital.

1. Williamson: Diabetes Mellitus and Its Treatment, New York, the Macmillan Company, 1898, p. 334.

2. In this paper the term sugar-free is used in the sense that the quantity of sugar present is too small to be detected by the ordinary tests for urinary sugar, such as Fehling's, Benedict's and Haines' qualitative tests.

3. Folin, O., and Wu, H.: J. Biol. Chem. **38**: 81 (May) 1919.

The method is safe. We have been using the cream for the last two months, have tested every bottle furnished, and all have been sugar-free.

The product is an economical one. Aside from the loss of the lactose which is desired, only a comparatively small amount of food is lost as butter fat and protein.

The keeping qualities of this product are excellent. The loss of the lactose prevents souring, and the loss of the protein prevents putrefactive changes from taking place. We have kept samples in the icebox for weeks with no apparent change in flavor.

Used as a cream, or diluted with water, this product furnishes a welcome addition to the diabetic diet.

AN UNUSUAL HISTORY OF ECTOPIC PREGNANCIES

DUDLEY W. PALMER, M.D., CINCINNATI

This case is of interest in that it well illustrates the tenacity with which the primal functions continue their activities.

Mrs. W. D. A., now aged 47, was married in 1901 and had always been well, having had no known pelvic trouble, although there was considerable dysmenorrhea. Soon after her marriage, she was taken sick with a variable amount of pelvic pain and hemorrhage and fever. About one month later she was operated on by my father, Dr. C. D. Palmer, who made the following report in the *Lancet Clinic*, June 7, 1902, and presented the right tube and ovary before the Academy of Medicine at Cincinati:

The uterus, found three and a half inches in length, in its backward displacement and flexion to the second degree, was thoroughly curretted, when an unusual amount of soft, pultaceous structure was removed from its cavity; then freely irrigated with hot sublimate water, but not packed. The vagina was well filled, especially its posterior culdesac, with iodoform gauze, to elevate and to antevert the uterus. A section of the abdomen showed in its peritoneal cavity at least two pints of dark, clotted blood, which apparently, for the most part, had been there for a week or more; the left ovary and tube normal; the uterus moderately adherent, by peritoneal adhesions in its retroverted position; the right ovary and tube in a state of chronic inflammation and disintegration; and in the Douglas space and to its right, a soft, boggy mass, of the size mentioned. This was removed with but little force, and the appendages of the uterus of that side exsected, after thorough catgut ligation on the pelvic and uterine ends. The gaping surfaces were overstitched, and the peritoneal cavity was then cleansed with sterilized gauze, and freely irrigated with gallons of hot (110 F.) salt water. The patient became extremely weak at two different times during the operation, so much so that it was feared she would die on the table; strychnin and whisky were administered freely hypodermically; saline transfusion, provided for, was not used, but a pint of the same was thrown into the rectum, when the abdomen was closed. No inconsiderable amount of the hot saline was intentionally left in the peritoneal cavity.

Following the foregoing there were five living children born and one stillborn. Four of these children are now living and in perfect health.

October, 1914, I was called about midnight, the patient then being 41 years old. The typical history of an ectopic pregnancy of about six weeks duration was obtained. She was so rapidly sinking that by the time we carried her down the stairs to rush her to the hospital, she could no longer remember events, though not completely unconscious.

An abdominal section was again made. The peritoneal cavity was found filled with blood. The left tube was quickly ligated and removed, its end not being excised from the horn of the uterus. Within the next forty-eight hours she slowly reacted, and by the time she left the hospital her condition was excellent.

It is interesting to note that the patient at this time made the statement that she was very glad the left tube had not been excised at the first operation, as she preferred the risk and dangers of a second ectopic pregnancy to foregoing the privilege and pleasure of having a family of children to raise.

About four months later she called me on the telephone, telling me she felt sure she was pregnant. I advised her that it was impossible, telling her she was probably "just weak" from the experience she had been through. I advised her to consult her family physician, and a few days later he told me that he had seen a large amount of material that had been passed that he felt sure was the early product of conception.

Nov. 20, 1920, she gave normal birth to a full term, 8 pound, 8 ounce child.

The explanation, of course, of the latter facts is that the ligature thrown around the uterine end of the left tube was absorbed in a few days, leaving a patent left tube. The left ovary must have come close to the opening in the tube, thus permitting the discharge of a healthy ovum into the uterine cavity.

707 Race Street.

NEW DEVICES COMBINING DISSECTION AND SUCTION, FOR USE IN SEPTUM, TONSIL AND OTHER OPERATIONS

CLIFFORD B. WALKER, M.D., SPRINGFIELD, MASS.

From my experience with the two instruments illustrated herewith, it seems to me that the principles of suction dissection can be used to advantage not only by the nose and throat surgeon, but also, by other specialists and by the general surgeon. The principle is most valuable when one must work without assistance, when there is not room enough for an assistant to manipulate a sponge rapidly, or when a small amount of blood obscures a precise spot before the operator can follow the removal of the sponge.

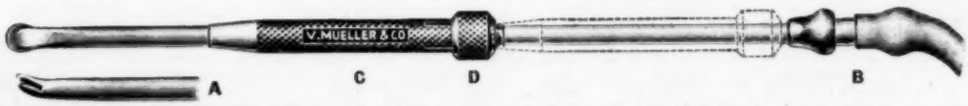

Fig. 1.—Walker's septal suction dissector: *A*, side view of tip; *B*, swivel joint allowing instrument to rotate in fingers; *C*, finger rest which may be fixed at any desirable distance from tip by chuck device (*D*).

Figure 1 shows a submucous elevator of tubular steel arranged to connect to the ordinary small suction apparatus which I believe will be as commonly seen in the hospital, the clinic and the office as the ordinary vacuum cleaner. The finger grip may be set at any suitable distance from the tip, and the instrument can be rotated in the fingers by virtue of the swivel or union joint. It is used for the same purposes as is the Freer elevator.

Fig. 2.—Walker's tonsillar suction dissector: *A*, side view of tip; *B*, swivel joint so that instrument may be rotated in the fingers. The projecting dissecting lip is dull-sharp.

Figure 2 shows the tonsil suction dissector,[1] similar but more strongly constructed. It is used as any tonsil dissector is used, but the dryness of the field makes possible much more accurate following of the capsule, especially when the reclining position is employed. During tonsil operation it may be used to clean the nose or larynx as well as the tonsillar region. I find that it contributes to rapid work in subperiosteal dissection as in mastoid exposure, and in the radical antrum operation; and, without doubt, it can be successfully used to advantage in many other regions of the body. It will handle splendidly a retropharyngeal abscess.

Each of these instruments is best for the special purpose intended; but in case of clogging, which will rarely occur if the tip is occasionally dipped into water during the operation, either instrument may be used as a substitute for the other. The size of the openings is such that an ordinary pipe cleaner will clear out any clot or bone chips almost instantly.

317 Main Street.

1. A more detailed account of this device has been given by Walker, C. B.: Control of Long Abscess Following Tonsillectomy and Retropharngeal Abscess: The Suction Dissector, Laryngoscope **30**: 701-706 (Nov.) 1920.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, MARCH 19, 1921

THE FATE OF FOREIGN PARTICLES IN THE BLOOD STREAM

The entrance of bacteria into the blood stream is not necessarily an event of serious, not to say fatal, moment to the body as many were inclined to believe only a few years ago. Indeed, competent bacteriologists have stated that even during health a certain number of living bacteria enter the portal circulation from the intestine and from there may ultimately find their way into the systemic circulation. In any event the stay of such adventitiously introduced micro-organisms in the blood stream is brief, at best. This fact exemplifies the now well recognized conclusion that an infection of the circulation, like that of any other region, is the product of two factors: the invading germ and the invaded body. For various reasons these two factors may be quite incompatible with one another, so that, as Zinsser once expressed it, we have in truth a battle of two opposed forces. It is the systemic analysis of these forces in their variable conditions, he continued, and the laws which govern them, which constitutes the science of immunity. It is the initial skirmish between the two which determines whether or not a foothold shall be gained on the body of the subject.[1]

What are the weapons which the body has at its command in its efforts to oust bacteria that may invade the blood? The action of the phagocytes is now too familiar to call for detailed comment. Phagocytosis by the characteristic leukocytes is, however, not the only way of ridding the blood of bacteria. It has been demonstrated experimentally that agglutination phenomena may take part in the process.[2] The mere clumping of bacteria does not entirely remove them from the circulation except so far as they find lodgment somewhere. The leukocytes may still come in for a final share in the conquest.

There have been suggestions that the cells of the capillary walls may cooperate in the removal of bacteria. A recent investigation by Drinker and Shaw,[3] in the Laboratory of Applied Physiology at the Medical School of Harvard University, is destined to throw light on this question. They followed the fate of carefully made suspensions of manganese dioxid containing particles not larger than 1 micron introduced in an acacia-saline solution directly into the circulating blood. In many instances the latter no longer showed the foreign particles after an interval of little more than a quarter of an hour. They were found for the most part in the lungs, liver and spleen, along with small deposits in other organs. Muscle, skin and nervous tissues were invariably free. The failure of the Boston physiologists to affect the rate of removal of manganese dioxid from the circulating blood and to alter the ratio of distribution in different organs through changes in blood pressure and in concentration of the suspensions employed is cited as evidence that some specific activity on the part of particular cells in certain organs is responsible for the removal, and that simple mechanical factors are of little or no importance.

It may be argued that inert inorganic particles and bacteria are quite different in character, so that the conclusions drawn from the behavior of the manganese dioxid cannot be applied without reserve to the chemically different micro-organisms. Drinker and Shaw assert, however, that so far as the immediate removal from the blood stream is concerned, the two types of particulate matter are similarly treated by the living organism into which they are injected. They are impelled to the conclusion, both from their own studies and the observations of their predecessors, that in certain organs the vascular endothelium possesses phagocytic power rendering the capillaries permeable to particular material as well as to gases, liquids and dissolved substances.

1. Zinsser, Hans: Infection and Resistance, New York, the Macmillan Company, 1914, p. 3.
2. Bull, C. G.: J. Exper. Med. **20**: 237, 1914; **22**: 457, 466, 475, 484, 1915.
3. Drinker, C. K., and Shaw, L. A.: Quantitative Distribution of Particulate Material (Manganese Dioxide) Administered Intravenously to the Cat, J. Exper. Med. **33**: 77 (Jan.) 1921.

DIARRHEA AND ANHYDREMIA IN INFANCY

A distinct service to clinical medicine has been performed by Marriott[1] of the Washington University Medical School, through his review of the important subject of anhydremia in the course of his lecture on some phases of the pathology of nutrition in infancy, before the Harvey Society of New York. There are a number of frequent disturbances of the health of infants which have various symptoms in common, although their character has received most diverse designations. In former days the development of diarrhea was the conspicuous feature of "the most stormy of the nutritional disturbances"; hence the once prevalent expression "cholera infantum" is fairly descriptive of the condition referred to. To some this implies a primarily bacterial causation; and the terms gastro-intestinal or alimentary intoxication, or toxicosis, have also come into vogue to designate acute toxic-like conditions following diarrhea, in contrast with the chronic state of failing nutrition that has received the name of "marasmus."

1. Marriott, W. M.: Some Phases of the Pathology of Nutrition in Infancy, Am. J. Dis. Child. **20**: 461 (Dec.) 1920.

The clinical picture of the hyperacute symptoms, which occur much more frequently in infants who have for some time been in poor nutritional condition, especially those who have suffered from previous attacks of diarrhea, is a familiar one. Marriott has pointed out that it is in many respects not unlike that of surgical or wound shock. There is the same gray pallor, prostration, weak, thready pulse and altered character of the respirations, and very frequently a rapidly fatal termination.

Our readers need scarcely be reminded of the diverse hypotheses which have been ventured in explanation of shock. For the shocklike symptoms of the acute type in infants, quite comparable suggestions have been made. There has been the proposal that an "acidosis" is the underlying source of danger—a phenomenon that does in fact occur, particularly when the renal functions fail so that neutrality regulation cannot be adequately accomplished through excretion of acid phosphate in the urine.[2] There is the theory of the genesis of peculiarly toxic compounds somewhere and somehow either in the tissues or through abnormal bacterial action in the alimentary canal. Marriott has emphasized the fact, now well substantiated by various investigations in addition to his own, that the blood of infants in all such involvements is decidedly concentrated by loss of water. There is an increase in the specific gravity, in the corpuscular volume, and in the amount of dried residue. The index of refraction is increased, and the protein content high. The viscosity, the electrical conductivity and the osmotic pressure are all increased. Fever is frequently present in infants suffering from severe diarrhea. In such cases, too, it is not necessary to assume the production of some specific pyrogenic substance in the disordered organism. Fever may be the expression of a decreased amount of water in the body available for heat regulation by evaporation of water and for other physiologic functions. In view of what dehydration will do[3] toward causing febrile reactions, there is no need for assuming injury to body cells or the production of pyrogenic metabolites.

In the analogies presented there is much to uphold Marriott when he argues that the entire clinical picture presented by infants who have lapsed into a toxic, shocklike condition following severe diarrhea may be explained on the basis of the water loss from the body, which is known to occur. That factors other than water loss are operative cannot be denied, but it is unnecessary to assume their existence in order to explain the observed facts. If poisons are accountable for the symptoms, their origin, nature and mode of action has not yet been explained. If the hypothesis of anhydremia can be defended successfully, the problem of therapy in the once so-called "toxicoses" of infancy becomes clearer. Water must be restored to the organism in some safe and effective manner. The intraperitoneal administration of physiologic sodium chlorid solution at frequent intervals has proved to be highly satisfactory.[4] We are assured that it is unnecessary to administer alkali to correct the acidosis unless this is of a severe grade, for when sufficient amounts of water are given the acidosis disappears, as the conditions that have led to its production are no longer present. The entire situation is one resting on easily understood and demonstrable chemical factors, the existence of which in turn indicates the desirable steps in a rational therapy.

2. Howland, John, and Marriott, W. M.: Acidosis Occurring with Diarrhea, Am. J. Dis. Child. **11**: 309 (March) 1916. Schloss, O. M.: Intestinal Intoxication in Infants, ibid. **15**: 165 (Feb.) 1918.

3. Balcar, J. O.; Sansum, W. D., and Woodyatt, R. T.: Fever and Water Reserve of Body, Arch. Int. Med. **24**: 116 (July) 1919.

4. Blackfan, K. D., and Maxcy, K. F.: Intraperitoneal Injections of Saline Solution, Am. J. Dis. Child. **15**: 19 (Jan.) 1918.

PATHOLOGIC RELATIONSHIPS OF THE BLOOD VOLUME IN INFANCY

It is a common experience in the natural and the physical sciences that the discovery of a new method of investigation or the perfection of some novel form of apparatus may promote valuable contributions to our knowledge. Numerous illustrations might be cited. The help that has been gained from devices for counting blood corpuscles emphasizes what new technic can add to the progress of a science.

Lately, studies on blood volume have demanded more than usual attention, particularly because of the development of the dye methods for estimating the amount of fluid circulating in the blood vessels. In their classic investigations in this field, Keith, Rowntree and Geraghty[5] used vital red and demonstrated that the normal blood volume for adults is about 8.8 per cent., or one eleventh, of the body weight. In a more recent investigation in the department of pediatrics at the University of California Medical School, Lucas and Dearing[6] have secured the corresponding data for infants. In the new-born, wide variations appear to occur, ranging from 10.7 to 19.5 per cent. of the body weight, and from 107 to 195 c.c. per kilogram. Lucas and Dearing can ascribe no reason for these wide variations beyond the fact that the blood during the first few days is undergoing a definite adjustment to its new surroundings. They point out, on the basis of records of the protein and sugar content of the blood, that a similar wide variation occurs during these first few days before the normal averages are established; and the blood volume undoubtedly goes through the same period of adjustment, when the blood-forming organs are probably called on to function independently of any assistance from the maternal circulation. In the records of the infants at an age of from 15 days to 1 year, examined by the San Francisco pediatricians,

5. Keith, N. M.; Rowntree, L. G., and Geraghty, J. T.: A Method for the Determination of Plasma and Blood Volume, Arch. Int. Med. **16**: 547 (Sept.) 1915.

6. Lucas, W. P., and Dearing, B. F.: Blood Volume in Infants Estimated by the Vital Dye Method, Am. J. Dis. Child. **21**: 96 (Jan.) 1921.

there is a definite uniformity, constant at least for individuals, and the variations between individuals are much less marked than in the first fifteen days, the extremes being from 9 to 12.6 per cent., and the average, 10.9 per cent. There seems, we are told, to be a fairly definite attempt to stabilize the blood volume during the first few months; and for any given infant over a period of several months, at least, the blood volume apparently remains at a fairly constant level, except when some condition has intervened which might easily be assumed to have changed the blood volume.

Such conditions do arise, according to the argument of Marriott [7] of St. Louis, in certain types of marasmus —the "Dekomposition" of the German school—sometimes designated as infantile atrophy, or athrepsia. This differs from the "toxicoses" attended with marked anhydremia, discussed in detail in the preceding editorial. The concentration of protein in the serum of athreptic infants may be noticeably lower than that of normal children of the same age. There is not merely a dilution or hydremic condition of the blood in these infants, but also an actually decreased blood volume. Whereas Marriott, like Lucas and Dearing, has found the average blood volume of approximately normal infants under 1 year of age to be 9 per cent. of the body weight, with variations ranging from 8 to 10.8 per cent., in athreptic infants the blood volume was found to average 8 per cent. of the body weight, the extreme variations being from 4.8 to 10.4 per cent. The higher values in general were observed in those infants who might be considered as convalescing from the condition.

These patients had a lower blood volume both absolutely and in relation to the body weight, a fact indicating to Marriott that a considerable destruction of the blood must have occurred along with the breakdown of other parts of the body. Decrease in blood volume may lead to diminished volume flow. If this occurs in certain important organs, like the gastro-enteric tube, their function may become seriously impaired. The nutrition of the entire body may become involved, leading to a syndrome of events which make the condition of the marasmic infant precarious. As some of the attendant conditions have been imitated experimentally in animals by underfeeding,[8] the possible rôle of dietotherapy comes into distinct prominence in the marasmus of infants.

7. Marriott, W. M.: Some Phases of the Pathology of Nutrition in Infancy, Am. J. Dis. Child. **20**: 461 (Dec.) 1920.

8. Utheim, Kirsten: A Study of the Blood and Its Circulation in Normal Infants and in Infants Suffering from Chronic Nutritional Disturbances, Am. J. Dis. Child. **20**: 366 (Nov.) 1920.

Function of Social Service.—It is essential that the function of social service be clear in the minds not only of those who practice it professionally, but of the trustees, the superintendents, and the medical staffs of hospitals and dispensaries. Unless a department can be started under properly trained leadership, it is better to defer its formation.—*Hospital Social Service* **3**:7, 1921.

Current Comment

FUNCTION OF RED BLOOD CELLS IN THE TRANSPORT OF CARBON DIOXID

While the blood passes from the arterial to the venous side of the circulation it gives up oxygen to the tissues and gains carbon dioxid from them. This gain ordinarily amounts to from 5 to 10 per cent. by volume of carbon dioxid. The red corpuscles, containing hemoglobin, possess an indispensable function as oxygen carriers. It has often been said, however, that aside from the transport of oxygen, all the chief functions could apparently be fulfilled by the fluid portion of the blood, the plasma. To it has long been assigned the part of carrying to the lungs the waste carbon dioxid. Latterly the presence of this compound in the corpuscles has become better recognized.[1] The textbooks still tell us that "the carbon dioxid is contained chiefly in the plasma, though a certain amount is also in combination in the corpuscles." It will come as a surprise, therefore, to those not so conversant with recent advances in the biochemistry of the blood, to read the latest dictum that "the transport of CO_2 in the blood is chiefly carried out by the corpuscles." [1] This conclusion is fortified by the demonstration that as blood passes from artery to vein it gains on an average 8 per cent. by volume of carbon dioxid; but of this, less than 1 per cent. by volume is gained by the plasma. This is true not only under normal conditions but also in disease. Whether most of the carbon dioxid thus removed by the cells is carried as inorganic bicarbonate or in actual combination with the cell pigment hemoglobin remains to be cleared up. At any rate, the functions of the red cells are being placed in a new and even more important light.

SHORTAGE OF PHYSICIANS IN RURAL COMMUNITIES

The alleged shortage of physicians in rural communities is still erroneously being interpreted as a dearth of physicians generally and is being advanced by some as a reason for abolishing medical practice acts, while by others the alleged shortage is used as an excuse for lowering the standard of medical education. More frequently, of late, the needs of rural communities is put forward as an argument for giving ill trained cultists—chiropractors, osteopaths, naprapaths, spondylotherapists, etc.—the right to treat the sick. The claim that there is a shortage of physicians in the United States is buncombe. This country now has double or treble the number of doctors in England—the country having the next largest supply. We now have one physician to every 726 people. The lack of physicians in rural communities is not due to a dearth of physicians but to the fact that physicians, like other people, prefer the better educational and social advantages of city life. They prefer the city where they find the valuable modern apparatus used in the diagnosis and treatment of dis-

1. Smith, L. W.; Means, J. H., and Woodwell, M. N.: Studies of the Distribution of Carbon Dioxide Between Cells and Plasma, J. Biol. Chem. **45**: 245 (Jan.) 1921. Joffe, J., and Poulton, E. P.: J. Physiol. **53**: 66, 1919-1920.

ease, and the facilities for making various special examinations. The chief reason, however, rests with the well-to-do people living in rural districts who, by means of the better roads, the automobile, interurban car lines and other means of rapid transit, now go for treatment to physicians or hospitals in nearby cities. Where physicians cannot make a livelihood, quacks, medical pretenders, cultists and others are even less inclined to locate. They are not found in rural communities. The licensing of such ilk, therefore, will not provide care for the sick in rural communities nor will the situation be improved by abolishing medical licensure, or by lowering the standards of medical education. How to remedy the situation—how to provide medical care for communities in which physicians cannot obtain an income to which their training and skill entitle them; or how to induce physicians to leave the cities which are oversupplied with medical service—is another story.

COLD AND DIABETES

Considerations of climate find a place in many departments of therapy, although it is often impossible to define in any precise or scientifically formulated manner how the effects sought are to be secured by changes of climatic environment. Cold can undoubtedly increase the metabolism of the body; it can increase the muscular tonus up to the point of shivering, and correspondingly it is said to promote the mobilization of carbohydrates, which are presumably the chief source of the energy transformed in the muscular contractions. It is not strange to read, therefore, that hyperglycemia has sometimes been found to attend exposure to cold. Facts of this sort have led Allen [1] to investigate whether in animals on the verge of diabetes, owing to deprivation of the function of part of the pancreatic gland, exposure to cold is sufficient to provoke the disease. It was argued that in a partially depancreatized animal, the increased carbohydrate mobilization or increased total metabolism may impose an additional burden upon the pancreas remnant, and any lasting increase of glycosuria must be interpreted in the sense of a true aggravation of the diabetes. In an occasional instance, the change from warmth to cold seemed responsible for a definite but transitory glycosuria. But there was no demonstrable difference in the proportion of pancreatic tissue that must be removed to produce diabetes in dogs in warm or cold environment, and it was proved by successive operations on the same animals that the influence of cold is not equivalent to the removal of the smallest fraction of a gram of pancreatic tissue. In comparison with the latter the most powerful functional influences seem to be of small potency. Allen states that in animals already diabetic, the course of the diabetes in a few instances seemed to be influenced slightly for the worse, so as perhaps to warrant the conclusion that cold imposes an increased burden upon the pancreatic function by increasing metabolism. How is climate to be evaluated in the clinic of diabetes? The impression that diabetic patients do worse in cold weather is probably explainable, Allen concludes, by the discomfort of chilliness when they are undernourished, the tendency to take more food, and sometimes by the limitation of exercise. These may be important sometimes from a practical standpoint, he adds, but any direct influence of climate on diabetes must be very slight if it exists.

1. Allen, F. M.: Experimental Studies in Diabetes, II, The Internal Pancreatic Function in Relation to Body Mass and Metabolism, 7, The Influence of Cold, Am. J. Physiol. **54**: 425 (Jan.) 1921.

ADMIRAL STITT BECOMES SURGEON-GENERAL OF THE NAVY

Among the nominations made by ex-President Wilson, not confirmed by the Senate before adjournment, was that of Rear-Admiral E. R. Stitt to the position of Surgeon-General of the Navy, succeeding Rear-Admiral Braisted, retired. As THE JOURNAL stated editorially at the time, the original nomination of Admiral Stitt met with the unanimous approval of the members of the Naval Medical Corps and of the medical profession generally. There was some fear that Admiral Stitt would not be nominated by the in-coming President. It is gratifying, therefore, to know that President Harding also recognized Admiral Stitt's fitness for the position and sent his name to the Senate, which confirmed the nomination on March 14. As THE JOURNAL stated in its previous comment, Admiral Stitt is peculiarly adapted for the high office to which he has been appointed and he may be assured of the full support of the medical profession of the country in any work which he may undertake for the development of his department.

THE DOSAGE OF ARSPHENAMIN

A wide divergence of opinion often exists as to the dosage in specific cases of drugs of admitted therapeutic potency. It is well understood that a variety of conditions may be present in the organism that can modify the effect of drugs. Size, age, sex, pathologic conditions, acquired tolerance, temporary changes in the body—any of these may determine a modification of dosage or choice of a drug because they might alter the reaction ordinarily expected. The Pharmacology of Useful Drugs [1] points out that the intensity of the action of a given drug usually depends largely on the total amount that acts at one time, and this is determined to some extent by the ratio between the rate of absorption, on the one hand, and that of elimination or destruction in the body, on the other. A large dose of a drug may produce less effect at one time than a small dose administered in the same way at another time, the difference in the intensity of action being due to differences in the rates of absorption and elimination. It is not equally well understood, however, that low concentrations of a chemical compound may affect protoplasm in a distinctly opposite manner from that provoked by larger proportions. It may be recalled that some of the familiar drugs are said to be both stimulating and depressing, the outcome depending on the dosage, i. e., the effective concentration acting at any moment on the receptive tissue. There are indications that arsphenamin may exhibit such properties. Several years ago it was observed [2] that low concentrations

1. Hatcher, R. A., and Wilbert, M. I.: Pharmacology of Useful Drugs, Chicago, American Medical Association, 1915, p. 7.
2. Bronfenbrenner and Noguchi: J. Pharmacol. & Exper. Therap. **50**: 333, 1913.

of arsphenamin, in vitro, markedly stimulated the growth of spirochetes. Subsequent investigations on animals with experimental syphilis by Bronfenbrenner and Schlesinger[3] of the Harvard Medical School showed that, under comparable conditions of infection, untreated animals may thrive better than those receiving exceedingly small doses of the drug, although larger doses were remedial in the usual manner. This outcome is not to be confused with the greater resistance to arsphenamin which the spirochetes are said to acquire after repeated treatment with the arsenical compound. From a practical aspect, the unexpected experimental effects of small doses suggest caution in view of the growing tendency to decrease the dosage of arsphenamin in the treatment of syphilis.

Association News

COMMITTEE TO ACT ON REHABILITATION OF EX-SERVICE MEN

At the request of the chairman of the Committee on Hospitalization and Rehabilitation of the American Legion, a meeting was held at the City Club, Chicago, March 7, to consider the present problems connected with the rehabilitation of ex-service men. There were present at this meeting Gen. Abel Davis, Major A. A. Sprague, Dr. Thomas B. V. Keene, members of the National Committee on Hospitalization and Rehabilitation of the American Legion; Surgeon-General Cumming and Drs. Lavender and McDill, of the U. S. Public Health Service; Dr. Thomas W. Salmon, representing the National Committee for Mental Hygiene; Dr. Charles J. Hatfield, representing the National Tuberculosis Association; Drs. Frank Billings of Chicago, A. R. Mitchell of Lincoln, Neb., and W. T. Sarles, Sparta, Wis., representing the Board of Trustees; Dr. Hubert Work, President-Elect of the American Medical Association; Dr. A. R. Craig, Secretary; Dr. George H. Simmons, Editor and General Manager; Drs. E. E. Irons of Chicago; J. N. McCormack of Bowling Green, Ky.; President Ray Lyman Wilbur of Leland Stanford University, and others. General Davis called attention to the care the ex-service man is now receiving, not only in hospitalization and treatment, but also in regard to his allowance and vocational training. A vigorous discussion followed, in which many of those present took part, the general trend of which was that whatever present failure exists is the result of complexity and the lack of coordination of the work, and that the first step toward remedying the present conditions should be the coordination of the three responsible bodies (Bureau of War Risk Insurance, the Federal Board for Vocational Education, and the Hospitalization and Treatment by the Public Health Service) under one directing head. It also developed in the discussion that much of the difficulty connected with hospitalization and treatment could be remedied if it were possible to secure, in the localities in which hospitalization is being carried on, the assistance of members of the local profession, acting as consultants in the various specialties.

The next day the Executive Committee of the Board of Trustees called in for conference: Admiral W. C. Braisted, President of the American Medical Association; Dr. Hubert Work, President-Elect of the Association, and Dr. M. W. Ireland, Surgeon-General of the U. S. Army. The Executive Committee recommended to the Board of Trustees the immediate appointment of a committee representing the American Medical Association, to consider and act on the general problem. This recommendation was later adopted by the Board of Trustees, and Drs. Frank Billings, Hubert Work and J. N. McCormack were appointed as such a committee.

3. Bronfenbrenner, J., and Schlesinger, M. J.: Generalized Infection in Syphilitic Rabbits Resulting from the Inadequate Salvarsan Therapy, Proc. Soc. Exper. Biol. & Med. **18**: 94 (Dec.) 1920.

THE BOSTON SESSION

Special Railroad Fares

The Central Passenger Association acts for those railroads which are members of the association operating in the following territory: the states of Indiana and Ohio; the lower peninsula of Michigan; that portion of Illinois on and south of a line drawn from Chicago to Peoria, and thence to Burlington, Iowa, including St. Louis and Hannibal, Mo., and border portions of Kentucky and West Virginia extending from Evansville, Ind., to Louisville, Ky., thence to Kenova, and thence a line leading to Pittsburgh. This association has taken official action so that the round trip railroad fare to Boston for the Annual Session of the American Medical Association announced by the Trunk Line Association (THE JOURNAL, March 12, 1921, page 730) will under like conditions be in effect in the territory of the Central Passenger Association.

Hotel Reservations at Boston

Present indications give promise of a large attendance at the coming annual session. Consequently, those who plan to go to Boston next June are urged to make hotel reservations early. Already letters have been received both at the Association headquarters and by the Local Committee on Arrangements, stating that requests addressed to hotels brought the replies that these arrangements must be made through the Hotel Committee. To meet this condition, the Local Committee on Hotels, Dr. John T. Bottomley, Chairman, Boston Medical Library, 8 The Fenway, Boston 17, Massachusetts, announces that it will gladly assist in securing assignments of hotel space to those who wish the committee's cooperation.

The offer of the committee appears on advertising page 29 of this issue of THE JOURNAL. In writing to the committee, be sure to indicate your first, second and third choices of hotels, and authorize the making of the reservation which will most nearly meet the conditions which you will indicate on the coupon from the advertising page to which reference is made. It is important that all the information indicated on the form shall be given to the committee. Moreover, if, for any reason, after having secured a reservation, conditions make it impossible to attend the annual session, it is urged that the Hotel Committee shall promptly be advised, that the reservation may be reassigned. Be sure to mail the coupon and to address all communications concerning hotel accommodations directly to the Local Committee on Hotels at the Boston Medical Library.

ANNUAL CONFERENCE ON MEDICAL EDUCATION AND HOSPITALS, LICENSURE AND PUBLIC HEALTH

Held in Chicago, March 7-10, 1921

MEDICAL EDUCATION AND HOSPITALS

(*Continued from page 733*)

OUTLINE OF AN ADEQUATE TRAINING FOR THE SPECIALTY OF DERMATOLOGY AND SYPHILOLOGY

DR. WILLIAM ALLEN PUSEY, Chicago: As preliminary to taking up the practice of dermatology and syphilology, the student should have, after graduation, at least one year in a general hospital with either a service in internal medicine, or a rotating service in which internal medicine and the medical specialties are the chief part. General medicine and neurology play such an important part in this specialty that one year in a general hospital must be regarded as an absolute minimum. An internship of two years is not an excessive preliminary general training, and an internship followed up by a general practice for a few years—not more than five—makes the best preliminary training for this specialty.

It is desirable that the student should graduate from a Class A medical school; that he should have a reading knowledge of French and German, and that as an intern he should have had some work in general pathology, particularly in postmortem pathology.

Familiarity with skin diseases and the ability to differentiate them requires visual memorizing of a large number of clinical pictures. It is therefore the first essential for the dermatologist to have an opportunity to see an extensive dermatologic material. This can be obtained in two ways: First, as an assistant in a hospital or dispensary which has an abundance of dermatologic cases, or second, exceptionally, with a specialist of established ability in dermatology who has a large amount of skin diseases and syphilis in his practice.

This opportunity for the clinical study of skin diseases and syphilis is the first essential of training in this specialty. The next, and not less important, in order to make a thorough dermatologist, is a proper laboratory training in this specialty, and a training in the technic of treatment. This training should be gotten at the same time as and in connection with his clinical training. A minimum requirement for laboratory training should include a working knowledge of cutaneous pathology and bacteriology, ability to recognize and demonstrate the bacteria and the animal and vegetable parasites that are commonly found in the skin. He should become familiar with the technic of diagnosis and treatment of skin diseases, including the therapeutic use of roentgen rays and radium, and the various dermatologic procedures. He should be trained in the intravenous administration of drugs, and the performance of spinal punctures.

The time necessary for such a training depends upon the opportunities of the student, his industry and his ability. It must be long enough for him to become well grounded in the essentials of dermatologic training as outlined above, if he is to be made competent to proceed independently on his special career after this training. For an adequate training of this sort, two years is a reasonable time; for a thorough seasoned training, three years should be given.

If such a course is given by a university it might well be recognized by a degree or a diploma which should be a master's degree or a degree of Doctor of Philosophy—not something new. A thorough course leading to such a degree in dermatology and syphilology should be not less than three years in duration, and the university giving it should have not only adequate laboratory facilities for giving the course, but also adequate clinical facilities; and there are few universities that can at present meet these requirements. For adequate training in this specialty at the present time, opportunities are afforded chiefly by a few university clinics, a few special hospitals, a few hospitals with special departments, and in the practice of established specialists.

REPORT OF SUBCOMMITTEE ON GRADUATE TRAINING IN OPHTHALMOLOGY

DR. WALTER B. LANCASTER, Boston: (a) Basic general training in the undergraduate medical school: We agree that the person desiring to specialize in ophthalmology should have full undergraduate courses leading to the degree of Doctor of Medicine in an acceptable medical school (such as those designated as Class A by the American Medical Association). (b) Courses leading to the specialty of ophthalmology which might be elective in the undergraduate medical school: The majority of opinion is that such electives are not advisable at present. (c) The hospital internship at the time of graduation—should it be a rotating internship in a general hospital? The consensus is that internship in a general hospital is essential and should be for a period of one year. There is almost unanimous opinion that the internship should be a rotating one. (d) Minimum practical graduate training in ophthalmology: (1) Review course in the anatomy, physiology, pathology and bacteriology, etc., for the organs involved. (2) Advanced courses in the specialty, lectures, recitations, clinics, and the number of hours to be devoted to each. Give also length of suggested course in weeks or months. The members of the committee agree that two years is the minimum to allow for training in ophthalmology.

The fundamentals should include: 1. Topographic anatomy of the head and neck. 2. General pathology and bacteriology, with special reference to diseased conditions bearing on ophthalmology. Standish would omit laboratory work in these, and confine the course to a restatement of the subjects as applied to the eye. 3. Histology and embryology of the eye. 4. Physiology of the eye. 5. Physiologic optics. 6. Physics of light. 7. Neurology. 8. Psychology of vision. The study of these subjects might be carried on in the laboratories of a university if such were available.

The clinical subjects in ophthalmology should include: 1. Special pathology and bacteriology of the eye. 2. Principles of refraction, including skiascopy. 3. Ophthalmology. 4. External eye diseases. 5. Internal eye diseases. 6. Practical refraction and skiascopy. 7. Eye muscles. 8. Perimetry and photometry. 9. Relation of the eye to (a) internal medicine; (b) neurology; (c) pediatrics; (d) dermatology; (e) industrial medicine; (f) public health. 10. Hygiene and therapeutics. 11. Ophthalmic surgery. 12. Preparation of histories and records. Probably a period of six months should be devoted to the fundamental subjects in laboratory work, demonstrations, lectures and reading, and six months to the clinical subjects, in the dispensary, laboratories and clinics.

(e) Suggestions regarding hospital internship or other clinical courses where further knowledge or skill in ophthalmology may be obtained. We recommend that following this year of preparation there should be, if possible, a year of internship in a recognized ophthalmic hospital, or a year as assistant in a well organized eye clinic. If these are not available, a year as an assistant in the office of a reliable ophthalmologist might be accepted, provided the duties assigned the assistant are of educational value. We recommend that hospitals organize their house staffs with the demand for training specialists in view. (f) Advisability of granting a certificate in ophthalmology to physicians who have demonstrated their proficiency. We recommend that the granting of a certificate in ophthalmology be in the hands of a board independent of the teaching bodies, such as the American Board for Ophthalmic Examinations. (g) Advisability of a higher degree (Ph.D.) and regulations governing its award. The granting of higher degrees should be carefully considered, lest they be cheapened. (h) Recommendations regarding a board of examiners and methods of testing proficiency of those completing the course, or others seeking the certificate in ophthalmology. A board for ophthalmic examinations has been in satisfactory operation for several years. We recommend that other specialties adopt some similar method.

DISCUSSION

DR. FRANK BILLINGS, Chicago: We have reached a period in medical education when we have been attempting to teach specialties to students rather than this broad, comprehensive knowledge which they must have if they are going to make what is most needed—general practitioners. Having served his internship before he receives his degree, which is a pedagogic principle, the physician is fitted to become a general practitioner. We do not need as many specialists as we do general practitioners. If each specialty would follow the outline given by Dr. Shambaugh, of returning for other training in the fundamental sciences before he takes up his clinical training, he would reach the fundamental basis of a good education and training as a specialist. Without that he cannot do that.

MR. C. C. CHOYCE, London, England: I gather from this discussion that you seem determined to do away with the immature and self-styled specialist, and are determined that the specialist, whether he be a surgeon or an ophthalmologist, shall be fully competent to do his work. Many of you seem further determined that his ability shall be guaranteed to the public by the possession of a diploma or degree. Hospitals in Great Britain will not accept a candidate for the post of surgeon on their staffs unless he has the Fellowship of the Royal College of Surgeons or a Mastership of Surgery, or both. This degree follows on a thorough preparation for the work. I hope and think that we shall alter our examinations to include both of these diplomas in order to compel better training beforehand.

DR. RAY LYMAN WILBUR, Stanford University, Calif.: I want to call attention to one point brought out in the report of the Committee on Surgery as it argues in favor of a good elementary education. In connection with the medical profession we have been talking about getting men into active work too late, and we have been trying to devise some method in our curriculum by which to shorten the work. There is a very easy solution to this problem concerning our public school system. We can readily squeeze two years out of the elementary work and never miss them for our best students if we use our brains on the problem. We have the exceptional child as well as the defective child, and the rest are in between. What we want to do is to get the exceptional boy and the exceptional girl into medicine.

DR. ABRAHAM FLEXNER, New York: All of the speakers suggested that a scheme of graduate education should proceed on the basis of a recognition of a Class A medical school. Dr. Billings pointed out the enormous importance of undergraduate instruction in medicine if we are to train a sound body of specialists in postgraduate schools. In going about the country, looking at the Class A medical schools that would figure at the top and seeing those that perhaps appear at the bottom, I find it difficult to formulate what is really required in order to be a Class A medical school. While we have made great progress, we still have a great way to go. Until a Class A school means something more nearly uniform in all sections of the country and in any one section of the country, it is going to be an extremely difficult thing to crystallize the needs of the various specialties in the postgraduate field. My first caution is not to lose sight of the undergraduate problem. We should strive as hard as we can to level up before we commit ourselves to a hard and fast conception of postgraduate training. My second caution is against a policy to define this postgraduate training too much in terms of courses.

DR. M. W. IRELAND, Washington, D. C.: The Medical Department of the Army has been tremendously interested in the standardization of medical education, and I do not believe any one has received more benefit from these conferences than the members of both our department and that of the United States Public Health Service. We are now concentrating more and more on this work.

DR. GEORGE E. ARMSTRONG, Montreal, Canada: With the development of specialties, it has been sometimes difficult to divide and keep the subjects under three distinct branches—medicine, surgery and obstetrics. Of course, we have subdivisions of these three great divisions in medicine. In this

way we think we have a better perspective, while the student at the same time gets the benefit of their teaching. As regards postgraduate teaching, the man who wishes to qualify in any special department has to go back to the fundamental sciences. In other words, he must re-lay his foundation. If he is going to take up surgery as a specialty, a thorough knowledge of anatomy is essential, together with a thorough grounding in pathology, which is the basis of all surgical work.

DR. ALEXANDER BEGG, Boston: At the Harvard Medical School we have felt for some time that the fences are becoming too high, so that it is impossible to get proper cooperation between departments and the proper real training for those who want to go into the different lines of medicine. It seems to me that we are likely to fall down in university work by emphasizing technic too much. This crops out in a good many of the so-called minor specialties particularly.

DR. GEORGE E. MEEKER, Philadelphia: Our experience would seem to show that the most important things are hospital organization and finances. If the American Medical Association and the constituent bodies can assist universities in marshaling their forces in an efficient way and see that the graduate students get hospital privileges and real opportunities and real responsibilities, it will result in the accomplishment of great good.

MONDAY, MARCH 7—AFTERNOON

THE RELATION BETWEEN THE SPECIALIST AND THE PRACTITIONER

Dr. James B. Herrick, Chicago: (This paper will appear in full in THE JOURNAL.)

REPORT OF COMMITTEE ON GRADUATE TRAINING IN GYNECOLOGY AND OBSTETRICS

DR. J. WHITRIDGE WILLIAMS, Baltimore: Your committee feels that four types of medical graduates require consideration, namely:

A. Those who have been in practice for years and merely desire to refresh and to bring more or less up to date their knowledge of the specialty.

B. Recent graduates who desire to prepare themselves to become competent specialists.

C. Practitioners, who, after some years in general practice, desire to engage in special work.

D. A much smaller group, consisting of those who have fulfilled the qualifications for Group B, and who desire to undertake serious research work in one or more of the fundamental sciences ancillary to their specialty.

The committee unanimously agrees that Group A is unimportant so far as educational problems are involved, but that it is important for the physicians themselves and for the welfare of their patients. Such work can easily be given by any medical school or teaching hospital which has control of sufficient clinical material, and has at its disposal a sufficient number of teachers who are willing to devote their time and energy to it.

Instruction of this type should in no way be regarded as graduate work, and should be designated as extension, repetition, or "refresher" courses for physicians; as it will generally be desired by those who have studied at inferior schools or who graduated from the better type of schools before the present methods of instruction came into vogue. In reality, such instruction is not university work at all, as it is of much lower grade than that provided for undergraduate medical students in university medical schools.

Such courses may last from six weeks to six months, and should include such simple instruction as experience has shown is needed by the type of practitioners taking them. Those participating in them should not be classed as graduate students, but should be enrolled in a special category. The committee believes that no certificate should be given on the completion of such courses, and that the physicians taking them should regard the information which they have obtained as a sufficient return for the time and money expended.

Group B, on the other hand, represents an urgent need from two points of view: (1) To provide recent medical graduates with adequate facilities to prepare them to take up special work, and (2) to protect the public from the activities of pseudospecialists.

Your committee agrees that instruction of this type is rather a matter of hospital than of university facilities, and should in great part be regarded as a technical apprenticeship rather than as an academic training.

The major part of the clinical work should be in the wards and in the operating and delivery rooms of the hospital, and considerable direct personal responsibility should be imposed on the student during at least his last year of service. Adequate provision should likewise be made for fairly prolonged service in the dispensary, which should include prenatal and postpartum work and the usual training in gynecologic diagnosis and treatment, as well as training in "follow up" work.

The laboratory instruction should afford adequate opportunity for personal work in the following subjects:

1. Histologic and pathologic study of the female genitalia both from the gynecologic and the obstetric point of view.

2. Bacteriology as applied to wound and puerperal infection, sterilization, etc., as well as the serologic reactions involved in the simpler biologic tests.

3. Biologic chemistry in connection with the study of metabolism and the investigation of various toxemic conditions.

4. Obligatory attendance on carefully conducted necropsies.

Work along practically such lines has for years been afforded members of the resident staffs in gynecology and obstetrics at several hospitals connected with university medical schools in various parts of the country, with the result that every one who has completed his four or five year term of service (including the intern year) has become a competent practical gynecologist and obstetrician.

In order to make this type of training possible, it is essential that, in teaching hospitals, obstetrics and gynecology should be fused into a single department, and that the usual short term resident service should be abolished and replaced by one lasting from three to five years, and open to graduates of any approved school.

Greater difficulty was experienced in reaching a conclusion as to what should be required of members of Class C, namely those who desire to take up special work after having been engaged in general practice for a varying length of time. The committee feels that this problem will eventually solve itself, for the reason that, as time goes on, fewer and fewer physicians will approach special work in this way.

Group D is the smallest, and in many ways the most important of all. In the unanimous opinion of the committee it is the only one which is really graduate in character and with which the universities should be seriously concerned. As indicated above, it would include a small number of men, who, after fulfilling the requirements for Group B, are prepared to undertake serious research work in one of the fundamental sciences on which their specialty is based. It is recognized that it is from men of this type that the important advances in the future may be expected, and they should be welcomed and afforded every facility by real university medical schools.

The committee was unanimous in concluding that work in Group A is not of university caliber and should not be designated as graduate instruction, and that students taking it should not secure any sort of university recognition, not even a certificate.

Furthermore, the committee was equally unanimous in holding that the work for Groups B and C is almost entirely technical in character, and so far as the university is concerned represents only the practical application of instruction already given to undergraduate students. For these reasons, it feels that successful completion of such work does not call for an academic degree, and that the most which can be justified is the granting of a certificate of proficiency.

The committee was divided concerning the propriety of conferring university degrees on the small number of men who do satisfactory work in Group D. Several members of the committee were doubtful of the propriety of granting the Ph.D. degree to medical men under any circumstances, while another member felt that, while it might be harmless, it should be regarded as a waste of the letters of the alphabet.

REPORT OF COMMITTEE ON GRADUATE TRAINING IN PUBLIC HEALTH AND HYGIENE

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: The committee considered the problem topically, endeavoring to answer the most important questions involved, as follows:

1. What basic general training should be given in the undergraduate medical school? To this question, the chairman made the following suggestions:

A. Required Courses. 1. Elementary bacteriology. Five hours a day for one semester. Laboratory work directed and supplemented by lectures and quizzes.

2. General hygiene and sanitation. Sixty-four hours of lectures and quizzes, embracing food, water, water supplies, sewage disposal, clothing, housing, health administration, federal, state, municipal and rural hygiene, military and naval hygiene, vital statistics, health laws.

3. Epidemiology. Forty-eight or sixty-four hours of lectures and quizzes on the history, geographic distribution, spread and control of communicable diseases.

4. Entomology. A short course of from six to twelve hours on the principal insects and other arthropods known to be vectors of important diseases. This instruction might come in one of the courses given above.

B. Optional Courses. 1. Advanced bacteriology. A more detailed study of organisms which cause the less common infections; methods of bacteriologic diagnosis; preparation of toxins and anti-toxins, vaccines and other curative and protective procedures. From three to four laboratory hours, five days a week for one semester, supplemented by lectures and demonstrations. Optional to medical students, but required for those who intend to devote themselves to public health. A medical graduate, entering a graduate school in hygiene, should take this course as part of his graduate studies, provided he has not already had it.

2. Protozoology. Study of spirochetes, trypanosomes, hemocytozoa and pathogenic protozoa. Laboratory work and reading extended over eight weeks or more. This course must be preceded by 1 and 2. Optional for medical students, but required for those seeking a degree in public health.

3. Sanitary analyses. Chemical and bacteriologic examination of foods and water.

C. Courses leading to the specialty, which might be offered as electives in the undergraduate school: (1) vital statistics and statistical methods; (2) serology; (3) immunology; (4) child hygiene, eugenics, prenatal care, personal hygiene, health supervision of public schools; (5) psychology and mental hygiene; (6) nature and prevention of habit diseases; (7) public health education.

Varying views were presented by the members of the committee as to what instruction on public health subjects should be included in the

required course for a medical degree. Colonel Siler felt that such instruction should include general hygiene and sanitation; communicable diseases; vital statistics, and medical zoology. Dr. Abbott feared that more is advised than the average medical school can give, and about all that can be expected at present are required courses in bacteriology and hygiene, and everything else must be deferred to the graduate course. He calls attention to the report of the Committee of the Association of American Medical Colleges which recommends a required course of ninety hours in hygiene and public health. Admiral Stitt agrees with Colonel Siler as to the subjects which should be covered in the undergraduate course and feels that elementary bacteriology should be given in the premedical course. Dr. Frost feels that medical graduates are deficient in their training, largely because disease has been presented to them as an individual and not as a collective problem. He suggests two required and three optional courses.

What should be the minimum requirement for a postgraduate course in public health and hygiene?

A. Amount of time required. A majority of the committee are agreed that a postgraduate course should cover a period of two years.

B. What should a postgraduate course include? In the opinion of the committee, it would be unwise at present to attempt to prescribe any definite curriculum for a graduate course in public health and hygiene. Much must at present depend on the student and his qualifications. Such review or supplemental courses as may be necessary should be offered. Each one of the members of the committee has sent in recommendations and has made suggestions as to the subjects which such a course should include. A composite of their views shows that the following subjects should be included:

I. Epidemiology, with special reference to communicable diseases: (a) classification of diseases; (b) discussion of various epidemiologic factors, biologic and environmental, affecting the occurrence and spread of communicable diseases.

II. Vital statistics and statistical methods.

III. General principles involved in the prevention and control of communicable diseases.

IV. Applied hygiene, community and personal hygiene.

V. Housing, general considerations, city and town planning, ventilation, heating, lighting and general sanitation.

VI. Public health engineering and sanitation, building plans, sanitation, rat proofing, etc., water, disposal of sewage, disposal of garbage and refuse; drainage, prevention of mosquito breeding; bacteriology, chemistry, microscopy of water and sewage.

VII. Bacteriology, public health bacteriology.

VIII. Immunology, infection and immunity.

IX. Medical zoology.

X. Biochemistry and physiology, nutrition, work fatigue, reaction to heat, light and atmospheric conditions.

XI. Public health organization and administration: (a) state health department; (b) municipal health department; (c) county health department, rural sanitation; (d) federal health organizations; (e) unofficial health organizations.

XII. Epidemiology and prevention and control of communicable diseases from the administrative standpoint, by groups and diseases.

XIII. Industrial hygiene, prevention of occupational diseases and industrial accidents.

XIV. Child hygiene, eugenics, prenatal care, preschool hygiene, health supervision in schools.

XV. Mental hygiene.

XVI. Epidemiology and prevention of diseases due to dietary deficiencies.

XVII. Epidemiology and prevention of habit diseases.

XVIII. Sanitary control of the milk supply, meat inspection, general food inspections.

XIX. Public health legislation.

XX. Public health education.

GRADUATE WORK IN ANATOMY

DR. C. M. JACKSON, Minneapolis: The graduate work in anatomy involves two distinct problems: (a) The question of the training of professional anatomists, and (b) the graduate work in anatomy for clinicians. These will therefore be considered separately.

The graduate work desirable for the training of a professional anatomist will depend largely on the amount and character of his previous study. We may divide the probable course of training into three stages, subject to a certain amount of overlapping and difference in sequence in individual cases. These stages include (1) the fundamental academic or general college work; (2) the professional work, including elementary courses in anatomy and allied subjects, and (3) the graduate or advanced anatomic work. The essential subject matter for each stage will first be outlined, leaving the question of degrees for later consideration.

The present committee is unanimous in considering as indispensable at least two years of general college work, including the fundamental training in physics, chemistry and biology (zoology), as generally outlined for premedical courses. It is highly desirable (considered essential by Evans, Stockard, Streeter and Terry) for the future anatomist to extend his general college work to three or four years, which will enable him to obtain much without which he would find himself more or less handicapped in his later career.

For a professional anatomist in a medical school, a thorough preparation in human gross anatomy, histology and embryology (including neurology) is clearly essential. Of the allied subjects, physiology is generally considered the most valuable, on account of the close correlation between form and function in living organisms. Biochemistry is necessary to understand the fundamental conditions of morphogenesis. Pathology is also considered essential, since abnormal conditions frequently throw much light on the normal structure.

The committee agrees that in all cases the training of the anatomist should include substantial research work under competent guidance in anatomy or some closely related phase of biology. The demonstration of ability in productive scholarship is indispensable. The time required for this will naturally vary in individual cases.

The financial or economic aspects of a career in anatomy constitute an important problem which cannot be ignored. As Dr. Streeter points out, the anatomist, in order to acquire an adequate training, must make an expenditure of approximately $10,000, and must give from eight to ten of his best years. There should be a fair return on the investment. The remuneration to be expected, under present conditions, begins with an instructorship at about $2,000 and leads ultimately to a professorship at perhaps $5,000. In comparison with the financial rewards in the practice of medicine, this is insufficiently attractive.

The committee recognizes the necessity for further basic work in anatomy by progressive clinicians, and favors cooperation with them by providing so far as possible the necessary facilities.

(To be continued)

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Department of Hygiene for University.—The University of Alabama, cooperating with the U. S. Interdepartmental Social Hygiene Board, recently established a department of hygiene, with Dr. Hiram Byrd as director.

ALASKA

Valdez Hospital.—It is announced that Drs. Ernest L. Anderson and Marcus D. White are to be associated in reopening the Valdez Hospital. It is also planned to have this institution cooperate closely with the hospital at Latouche which is to be used as a base where all serious cases are to be taken for operation and treatment.

ARKANSAS

Bill to Regulate Practice of Medicine.—The state legislature has passed the Lemore bill regulating the practice of medicine and surgery.

New Community Civic Health Center in Fort Smith.—A free clinic for women and children established through the joint efforts of the Sebastian County Medical Association and the Fort Smith Federated Welfare Association has been put in operation at the community center. At the present time it is receiving the cooperation of public health nurses and other interested welfare organizations.

CALIFORNIA

Personal.—Dr. William F. Gates, Oroville, was injured in an automobile collision, near Gilroy.——Dr. Robert Smart was selected, from a civil service list, as health officer for San Diego to succeed Dr. Ernest P. Chartres-Martin, resigned. The board of health also reelected Dr. Alexander M. Lesem, physician at the Mission Valley Hospital for Women.——Dr. William I. Kinsley has announced that he will be a candidate for mayor of San Diego.

CONNECTICUT

Dr. Flint's Resignation.—Yale University announces the resignation on account of poor health of Dr. Joseph Marshall Flint, since 1907 professor of surgery, to take effect at the close of the present university year. Dr. Flint is planning to go to his home in California after commencement.

FLORIDA

Hospital News.—The Flagler Hospital and the Anderson Memorial Home for Nurses were recently opened at St. Augustine. The new structure which has been more than two years in building is well equipped and replaces the old Flagler Hospital which was destroyed by fire.

ILLINOIS

Chicago

Hearing Board Established.—Dr. Lee Alexander Stone, chief of venereal disease and social hygiene division of the health department, announces that he has established a hearing board in connection with the work of his bureau as a means of getting more complete reports from the medical profession on cases of this kind. Physicians who fail to report the venereal cases which they have under treatment will be asked to appear before the board and explain why they have failed to comply with the law.

INDIANA

Physician Convicted for Criminal Operation.—It is reported that Dr. Albert A. Hill, Indianapolis, who was charged with performing a criminal operation which resulted in the death of a girl of 18 years in July, 1918, was convicted, March 8.

State Legislation.—The state senate has passed the bill authorizing county commissioners to employ public health nurses.——Senate bill 213, which provided that all milk sold for human consumption must either come from tuberculin-tested cattle or must have been pasteurized, was killed by the house.——A motion to strike out the enacting clause of senate bill 120, providing for state inspection of all remedies for tuberculosis, was voted down in the house. An amendment eliminating from the bill a clause which permitted the state board of health to fix a price at which lung medicines could be sold was passed.——The house passed the bill appropriating $125,000 for the establishment of a children's hospital in honor of James Whitcomb Riley.

IOWA

Meetings of Iowa Physicians.—The Iowa Society of Clinical Medicine met in Grinnell, February 26, as the guest of Dr. Evan S. Evans and the Grinnell Clinic.——The annual clinic of the College of Medicine of the University of Iowa will be held on April 12 and 13. Dr. William J. Mayo, Rochester, Minn., will take part in the program.——The Iowa X-Ray Club will hold its third meeting in the University Hospital, April 14.

LOUISIANA

Asks Repeal of Occupation Tax.—The Natchitoches Parish Medical Society, at the regular March meeting, adopted resolutions condemning the occupation tax as unfair and a double tax. Copies of the resolution were sent the members of the Constitutional Convention asking them to use their influence to have the tax repealed.

MAINE

Bacteria Film to Be Shown in Schools.—A motion picture reel on bacteria will be shown in two eighth grade schools in Augusta this week. If the results are satisfactory this experiment will establish a basis for the introduction of visual education in the public schools of the state.

MARYLAND

Personal.—Dr. John Graham of the University of Edinburgh was the guest of honor at a dinner given recently by Dr. John T. Geraghty at his home in Guilford, Baltimore.

Meetings.—Dr. Shelby M. Harrison, director of the department of surveys and exhibits, Russell Sage Foundation, New York, delivered an address on "The Methods and Results of Public Health Surveys," at Johns Hopkins University School of Hygiene and Public Health, March 8.

Appointment at Bay View Under Consideration.—Appointment of a medical man as superintendent of Bay View City Asylum at a salary of $4,000 with living quarters, light and fuel, to succeed Mr. Lamar Hollyday, resigned, was discussed recently by members of the board of supervisors of city charities following a meeting of the Bay View committee. Mr. Hollyday's successor will be considered at a general meeting at Bay View on April 1.

MICHIGAN

Hospital News.—The new Mercy Hospital at Muskegon, costing $400,000, was opened in February.——An eighteen bed hospital has just been completed by the Belding Brothers Corporation, at Belding, and is to be known as the Belding Brothers Corporation Hospital.

MINNESOTA

Chicago Educators Visit Mayo Foundation.—Dr. Harry Pratt Judson of the University of Chicago and Dr. Arthur Dean Bevan, professor of surgery, Rush Medical College, and chairman of the Council on Medical Education, American Medical Association, recently visited the Mayo Foundation to study the methods of graduate teaching employed there. Dr. Judson and Dr. Bevan addressed the fellows and staff of the foundation. Dr. Judson spoke on the work of the Rockefeller Foundation with special reference to the work in China. Dr. Bevan discussed the facilities for graduate and undergraduate medical instruction in the University of Chicago and stated his belief in the promising future of graduate medical education in this country.

Personal.—President Ray Lyman Wilbur, Leland Stanford University, delivered a Mayo Foundation Lecture on botulism, Saturday, March 5.——Dr. J. Whitridge Williams, professor of obstetrics in and dean of Johns Hopkins University Medical School, gave a Mayo Foundation Lecture, "A Critical Review of Twenty-One Years's Experience with Cesarean Section," March 10.——Dr. Henning Wiese, who has been a fellow in surgery in the Mayo Foundation since 1918, is leaving for his home in Christiania where he will practice surgery in the city hospital.——Dr. G. Carl Huber, professor of anatomy, University of Michigan, gave a Mayo Foundation Lecture, "Experimental Observations on Bridging Nerve Defects."——Prof. Gaston Labat, special lecturer on anesthesia in the Mayo Foundation, has just received notice from the Faculty of Medicine of the University of Paris that he has been awarded the medal for his thesis on paravertebral anesthesia in gastro-intestinal surgery. This confers on him the title of Laureate of the Faculty of Medicine of the University of Paris.

NEW JERSEY

State Health Conference.—At the eleventh annual conference of state and local health officers, held at Trenton, Dr. Abraham Zingher, New York, spoke on "The Modern Method for the Control of Epidemics of Diphtheria"; Dr. C. G. Wigley, New York, on "The Protection of Public Water Supplies"; Mr. E. G. Routzahn, Russell Sage Foundation, New York, on "Publicity and Health Work," and Mr. Philip P. Jacobs of the National Association for Study and Prevention of Tuberculosis, on "The Broader Health Aspects of the Tuberculosis Problem."

Women in Industry Receive Attention of Legislators.—Welfare legislation is receiving renewed impetus in New Jersey since the entrance of women into the political field. Bills before the present legislature limit the employment of women in manufacturing establishments, bakeries, laundries and restaurants to nine hours out of any ten consecutive hours in any one day, and to forty-eight hours in one week; prohibit night work by women between 10 p. m. and 6 a. m., and establish a commission to study the advisability of making it unlawful for women to be employed in industrial occupations six weeks before and six weeks after childbirth.

NEW YORK

Gift of One Million Dollars to Medical School.—The new school of Medicine and dentistry of the University of Rochester has recently been given $1,000,000 by Mrs. Gertrude Strong Achilles and Mrs. Helen Strong Carter, daughters of the late Henry A. Strong. The entire amount will be used toward a clinical hospital to be erected as a joint memorial to the parents of the donors.

New York City

Alumni Dinner.—The New York University Medical College Alumni will held their second annual dinner at the Hotel Biltmore, on Thursday evening, March 31. Dr. Robert J. Carlisle of the class of 1884 is president of the association.

Academy of Medicine Increases Nonresident Membership.—At its meeting, March 3, the New York Academy of Medicine adopted a recommendation of its council amending the constitution so as to increase the number of fellows not residing in the city of New York from 250 to 300.

Delousing Started in Public Schools.—The public health committee of the New York Academy of Medicine has made public a report on the typhus situation in which it advises preventive measures "although no imminent danger of the spread of typhus fever exists." The report states that the occurrence of typhus fever in New York City is not an extraor-

dinary event, there having been twenty-four cases reported in 1917 and thirteen in 1918. The report emphasizes the importance of separating the sick from the healthy and states that it is imperative that disinfection of immigrants be made at the port of embarkation. Because of the existence of endemic typhus fever in this city the public health committee recommends that efforts be directed toward the elimination of pediculosis. The reports of the health department show that every year 200,000 children in the public schools are found to be infested with vermin. Efforts are being made to discover such children, and when they are found they are told not to return to school until they are rid of vermin. If the instructions are not complied with, truant officers are to bring the parents of such children into court for failure to comply with instructions of the board of health. It is stated that all the children found infested have recently come to this country from Europe. Five new cases of typhus fever have developed among passengers of the Italian liner *San Guisto*, which arrived here more than a month ago. On March 7 there were altogether about forty-five cases of typhus fever on Swinburne Island.

New York Association for Medical Education.—At the annual meeting of the association held at the Academy of Medicine, March 7, the by-laws were amended and the board of directors was reconstituted to apportion the control of the association's affairs to the five medical schools of greater New York; namely, Columbia University, College of Physicians and Surgeons; Cornell University Medical College; the Long Island College Hospital; the New York Post-Graduate Medical School and Hospital, and the University and Bellevue Hospital Medical College. This means that for the first time in the history of New York City the five medical schools will cooperate to develop New York City as a medical teaching center. The mayor, the commissioner of health, and the commissioner of public welfare are ex-officio members of the board of directors. Unnecessary duplication of courses of instruction by the several medical schools will be done away with. New courses and a higher type of graduate work will be instituted. The new officers of the association are: president, Dr. Haven Emerson, formerly health commissioner of New York City, and at present in charge of the War Risk Bureau; secretary, Dr. Otto V. Huffman, at present associate professor of medicine at the New York Post-Graduate Medical School and Hospital, formerly secretary of the state board of medical examiners, and secretary-treasurer of the Federation of State Medical Boards of the United States, and formerly dean of the Long Island College Hospital; treasurer, Dr. George W. Kosmak, attending surgeon of the Lying-In Hospital, and formerly secretary and editor of the American Association of Obstetricians.

NORTH CAROLINA

Hospital News.—Bonds to the amount of $250,000 will be issued to rebuild the Biltmore Hospital, recently destroyed by fire at Asheville. Mrs. George W. Vanderbilt donates $25,000 to the building fund.——Fire of undetermined origin completely destroyed the Atlantic Coast Line Hospital for the First Division at Rocky Mount, entailing a loss of more than $50,000. The building was of old construction and highly inflammable. It is expected that its replacement will be of modern fireproof type.

New Marriage Law.—A recent enactment of the legislature, effective March 5, known as the Bellamy act, forbids the issuing of marriage licenses to men unless the application is accompanied by a physician's certificate dated within the past seven days attesting the absence of venereal disease, tuberculosis in an infectious stage, and an absence of a previous adjudgment of insanity by a court of competent jurisdiction. Women applicants for marriage licenses are exempt from the venereal disease clause but must exhibit physician's certificates relative to the absence of infective tuberculosis and insanity.

Medical Society Finds Enforced Treatment Act Unnecessary.—The New Hanover County Medical Society, to which was referred the measure before the legislature to enforce treatment of persons in Hanover County afflicted with tuberculosis, upon investigation found that a law already exists giving the board of health power to order any person suffering from tuberculosis to enter an institution for treatment. Accordingly, the society passed a resolution disapproving the proposed new law and recommending that the board should use the power with which it is already vested, and promising the support and cooperation of the county medical society.

OHIO

Physicians Appointed on State Board.—Dr. Isaac B. Harris, Columbus, and Dr. Edmund M. Baehr, Cincinnati, have been appointed members of the state board of administration.

Ohio Hospital Convention.—The annual convention of the Ohio Hospital Association will be held in Cleveland, May 16 to 21, inclusive. The nurses of the state will meet at the same time.

Scientific Societies.—The American Association of Pathologists and bacteriologists, the American Society for Cancer Research, the American Society of Immunologists and the International Association of Medical Museums (American and Canadian Sections) will meet in Cleveland, March 24 to 26. Members of the profession in Cleveland are invited to attend.

Oppose Nurses as Anesthetists.—The Miami County Medical Society, the Paulding County Medical Society, and the Cincinnati Academy of Medicine have each passed resolutions opposing the use of nurses as anesthetists and asking that suitable legislation be presented in the present session of the state legislature to repeal the present act authorizing nurses to administer anesthetics under direction of the surgeon. These organizations resolve further to instruct delegates to vote against any proposal of the state society to stand neutral or to favor any action of the state society to continue supervised anesthesia.

OKLAHOMA

Legislation for Women in Industry.—A bill introduced in the state senate by Mrs. Lamar Looney, state senator, provides that no woman shall work more than eight hours a day nor more than fifty hours a week, except by the consent of the worker in time of calamity or disaster. The measure does not apply to agricultural workers, nurses or women of similar professions. Provision for seats for all women employees when not engaged in active performance of their duties, and also sufficient heating and adequate toilet equipment are demanded in the bill. There is a penalty of not less than $50 nor more than $100 for violation of the measure, which is increased to from $200 to $300 or from five to thirty days' imprisonment for a second offense.

OREGON

Baby Home Nearly Completed.—The new Albertina Keer Nursery Home, costing $80,000 and providing accommodations for approximately ninety babies will be ready for occupancy about April 1.

University Medical Department to Expand.—The appropriation by the legislature of $271,000 and a corresponding amount expected from a philanthropic Eastern foundation making a total of $542,000 will be expended on medical training, medical research, and medical building in Portland by the University of Oregon. The number of students permitted to enter will be increased with the school's expansion.

PENNSYLVANIA

Hospital News.—The Clearfield Hospital Endowment Building and Equipment Fund has reached the sum of $180,000; $200,000 is required.

Practicing Without Licenses.—State health department officials have recently been engaged in arresting persons engaged in practicing in various specialized branches without state licenses, including chiropractors, chiropodists and others.

Officers Elected.—At the annual meeting of the Northampton Medical Society the following officers were elected for the year 1921: president, Milton W. Phillips, Chapmann Quarries; vice presidents, Drs. Edwin D. Schnabel, Bethlehem, and Paul Correll, Easton; secretary-treasurer, Dr. Paul Walters, Bethlehem.

Personal.—Dr. William E. Holland, Fayetteville, was elected president of the Medical Society of Franklin County at the society's annual meeting held, January 18, at Greencastle. Other officers elected were: vice presidents, Drs. John W. Croft, Waynesboro, and Thomas H. Gilland, Greencastle; secretary, Dr. John J. Coffman, Scotland; assistant, Dr. Samuel D. Shull, Chambersburg, and treasurer, Dr. Thomas N. Emmert, Chambersburg.

Philadelphia

Personal.—Dr. Anna Broomall, who occupied the chair of obstetrics in the Women's Medical College from 1878 to 1902, was run into by an automobile, March 4, and sustained a

fracture of the arm.——Dr. Henry S. Wieder, for nine years assistant medical inspector in the bureau of health, has resigned.

Elimination of Mosquitoes.—Steps toward the elimination of the mosquito in Philadelphia were recently discussed in the mayor's office. Dr. Herbert Allen, representing the Navy Yard, said that efforts were being made to keep mosquitoes away from the vicinity of the Navy Yard and offered the service of the laboratory there to the city.

Medical Unit Organized.—Jefferson Medical College has completed the organization of a medical corps unit of the Reserve Officers' Training Corps under the direction of Major John T. Aydelotte, M. C., detailed to the college by the United States Surgeon-General, as professor of military science and tactics. Fifty-nine students have enrolled.

RHODE ISLAND

Personal.—Dr. Horatio R. Storer, Newport, was presented with a silver loving cup as a testimonial of the esteem of his fellow physicians and citizens on his ninety-first birthday, February 27.

TENNESSEE

Special Permits to Physicians.—Memphis physicians are permitted to park their cars in restricted zones for a period of three hours provided they carry on their cars the physician's insignia and pledge themselves not to violate other automobile ordinances. The local medical society has voted to adopt the insignia secured from the American Medical Association to mark physician's cars.

TEXAS

Legislative News.—The state legislature has passed five bills relating to public health. None of them carried appropriations, although all are constructive measures. The Consolidation Act merges the pure food and drug department with the state board of health at a saving of $15,000 a year. Another act prohibits persons infected with or affected by a contagious disease from working in restaurants, hotels, bakeries, meat markets, cafés, dairies and dining cars. It also provides for the proper sterilization of all dishes, receptacles, or utensils used in eating or drinking. A third act prohibits the employment of persons suffering from a contagious disease in barber shops or beauty parlors. The fourth act requires the use of a prophylactic solution in the eyes of the new-born; while the fifth act requires all maternity homes and hospitals to be registered with the state board of health.

WASHINGTON

Oldest Physician in America.—Dr. Lemuel I. North, Tacoma, the first white child born in Iowa and believed to be the oldest practicing physician in America, celebrated his one hundredth birthday at a party given in his honor at Puyallup. During the week of this anniversary he answered thirty-three medical calls.

WISCONSIN

Wisconsin Home-Coming.—The State Medical Society of Wisconsin will celebrate its seventy-fifth birthday by holding a "Home-Coming" meeting in Milwaukee, September 7, 8 and 9. All former Wisconsin men, whether they have practiced there or left Wisconsin to study medicine, practicing elsewhere after graduating, are invited to this home-coming. The officers of the society are anxious to secure at this time for mailing purposes the names of all former Wisconsin men. They will confer a favor by sending their names and addresses to Dr. Rock Sleyster, Secretary, Wauwatosa.

CANADA

Personal.—Dr. D. B. Wilson, Toronto, is at present health officer, department of public health, Sante Fe, Mexico.

Prescribing Too Much Liquor.—The Manitoba Medical Council has suspended all the physicians of St. Boniface, Manitoba, from practice, with one exception. Infractions of the Manitoba Temperance Act was the cause. The citizens will appeal to the Manitoba government to provide adequate medical service for the district previously served by the physicians under suspension.

The Aesculapian Club, Toronto.—The last gathering for the season, 1920-1921, of the Aesculapian Club, Toronto, was held March 10. Sir Bertram Windle, M.D., London, England, delivered the regular address. The following officers were elected: president, Dr. Alexander Primrose, C.B.; vice president, Dr. George Elliott; secretary, Dr. Fred Harrison (reelected); treasurer, Dr. Edmund E. King (reelected).

New Health Center Opened.—The Massachusetts-Halifax Health Commission, on March 2, opened a second health center in the area of the great explosion disaster, in 1917. This new center is in the old Postoffice Building, Dartmouth, which is splendidly adapted for the purpose. The medical staff are Dr. Henry A. Payzant, who will organize the prenatal and child welfare clinics; Dr. Matthew G. Burris, the tuberculosis service; Dr. George G. Gandier, the eye, nose and throat service, and Dr. F. W. Tidmarsh, the nutrition clinics. The nursing service will be organized by Miss Mary D. Patterson, under the general direction of Miss Ross, the chief nurse of the commission.

Report of Committee of Sixteen.—"To bring about a reduction in, and final extermination of commercialized vice in the community, and the rehabilitation of its victims by bringing into activity such laws as exist, and causing to come into existence such others as are necessary to accomplish this object," is stated as the purpose of the Committee of Sixteen (Montreal, Que.) in its second annual report. The committee has secured a law providing jail sentence without the option of a fine for a keeper convicted more than twice and also for all keepers convicted from an address with respect to which more than two convictions have been made. Three convictions have already been obtained against keepers of forty-four of the worst vice resorts in Montreal. Photographs and finger prints are now taken on arrest of all keepers of disorderly houses. All women arrested as keepers or inmates of such houses are physically examined after conviction and before sentence. The injunction and abatement act obtained last year against landlords of houses used for immoral purposes has recently been sustained through a test case. The ward containing the red light district shows 30 per cent. greater juvenile delinquency than any other ward in the city. It is estimated that 3,000 children and young girls attend school and 3,500 girls are employed in business establishments in this district.

GENERAL

World Tuberculosis Meeting.—The International Union Against Tuberculosis, including representatives of members of the League of Nations and the United States, will meet for the first time, in London, July 26-28.

Red Cross Leaders Sail.—Four national officers of the American Red Cross sailed on the *Imperator* on March 12 to attend the International Conference of the Red Cross, which opens at Geneva on March 28. They are Dr. Livingston Farrand and Dr. Albert Ross Hill of New York, Eliot Wadsworth of Boston and George E. Scott of Chicago.

Fit for Beverage Purposes.—According to Treasury Decision 3141, dated March 2, 1921, and effective ninety days from the date hereof, the "preparations named below which are included in the U. S. Pharmacopeia and the National Formulary are hereby classed as fit for beverage purposes"—the preparations listed are: Spirit Ether or Hoffman's Drops, U. S. P.; Elixir Terpene Hydrate, N. F.; Wine of Pepsin, N. F.; Wine of Beef, N. F.

Association of American Medical Colleges Elects Officers.—The officers elected by the Association of American Medical Colleges at the thirty-first annual meeting held in Chicago, March 8, for 1921-1922, are: president, Theodore Hough, University of Virginia School of Medicine; vice president, Charles P. Emerson, University of Indiana School of Medicine; secretary-treasurer, Fred C. Zapffe, Chicago; chairman of executive council, Irving S. Cutter, University of Nebraska, College of Medicine.

Campaign to Promote Annual Physical Examinations.—Gen. John J. Pershing is participating in a campaign for an annual physical examination of the young manhood of the country. Disclosure of the fact that over 60 per cent. of the youths drafted into the military service during the World War were physically defective is the reason that General Pershing is advocating this annual survey. He advances the theory that such an examination conducted either by government physicians or doctors in civilian practice under authority of the War Department or the U. S. Public Health Service would reveal any lack of physical development or defect that could in most instances be remedied.

Dr. Sawyer to Outline Plans for Public Health.—Dr. Charles E. Sawyer of Marion, Ohio, who has been President Harding's personal physician, has been commissioned a brigadier-

general in the Medical Reserve Corps, and will be called to active duty. At the present time there are only two brigadier-generals in the medical section of the reserve corps. They are Dr. John M. T. Finney and Dr. William F. Thayer, both of Baltimore. It is now reported that in addition to his duties as physician to the White House, Dr. Sawyer will be detailed to public welfare work. An official statement from the White House concerning this appointment follows:

President Harding has long since been convinced that the affairs relating to public welfare, such as Public Health, Education and Social Justice, are so intimately related and so vital to the Nation's prosperity that he has decided to begin at once a careful survey of all matters pertaining to these subjects.

That there may be no delay, he has nominated Doctor Sawyer of Marion, Ohio, a man of long and practical experience in such matters, to a Brigadier Generalcy in the Medical Corps of the Army, thereby not only securing the services of Dr. Sawyer as physician at the White House when professional attention is necessary, but also giving him direct authority to make a thorough investigation of needs of this subject and to present the accumulated facts, with such suggestions as his observations may warrant, in bringing about a concrete plan of co-ordination and most efficient and economic operation of these affairs.

Bequests and Donations.—The following bequests and donations have recently been announced:

Jefferson Medical College, Philadelphia, $150,000, to be held in trust for the Daniel Baugh Institute of Anatomy, the income to be used to pay salaries to a professor of anatomy and director of the institute, by the will of Daniel Baugh, Philadelphia.

Hahnemann Medical College, Philadelphia, a trust fund of $25,000, the income to be used for the purchase of instruments and apparatus to equip the John Clifford English and Mary E. English laboratories; Hahnemann Medical College Hospital, $10,000 for the endowment of two beds, and St. Luke's Hospital, $5,000 to endow one bed, by the will of Mary E. English, Philadelphia.

Italian Hospital of the Borough of Manhattan, more than $20,000, the proceeds of a benefit performance of "Rigoletto."

St. Mary's Free Hospital for Children, $5,000, and United Hospital Fund, New York, $2,500, by the will of Mrs. Ellis Prince Speyer, White Plains, N. Y.

Society for Improving the Condition of the Poor, New York, $200,000; Children's Convalescent Home at Chappaqua, N. Y., National Committee for Mental Hygiene, each $100,000; New York Hospital, $50,000; Adirondack Cottage Sanatorium, $25,000, by the will of Mrs. Elizabeth Milbank Anderson.

Mount Sinai Hospital, New York, $1,000; Montefiore Home, New York, $500, by the will of Edward Hirsch.

Is Beer a Medicine?—One of the last acts of Attorney-General Palmer was to furnish an opinion to the Secretary of the Treasury on the manufacture and sale of whisky and beer for medicinal purposes under the Volstead Act. The opinion, dated March 3, 1921, the day before President Harding was inaugurated, holds that it was not the purpose of Congress to prohibit the use of liquor for nonbeverage purposes. As evidence thereof, the Attorney-General quotes the title of the National Prohibition Act. However, in order to regulate the manufacture, production, sale and use of spirits for other than beverage purposes, it was found necessary to regulate the traffic in nonbeverage liquors. The use of liquor as a medicine was recognized by Congress to be a nonbeverage use. The Attorney-General, therefore, is of the opinion that the Commissioner of Internal Revenue may issue permits for the manufacturing of liquors for medicinal purposes. This opinion answers the first three questions of the Secretary of the Treasury, which were whether the commissioner is authorized under the Volstead Act to issue permits for the manufacturing of whisky, beer or wines for medicinal purposes. The fourth question is whether the Secretary of the Treasury is authorized under the law to limit or control by regulation the quantity of any or all of the three forms of liquor which may be prescribed by physicians. The Attorney-General says that the law forbids a physician to prescribe liquor, except when after a personal examination or investigation he believes, in good faith, that the use of such liquor as a medicine by such person is necessary and will afford him relief from some known ailment. The only limitation which Congress has prescribed is that not more than 1 pint of spirituous liquor shall be prescribed for the same person within a period of ten days. The Attorney-General holds that subject to this limitation, the question as to the quantity of liquor which may be used as a medicine in each case has been committed to the professional judgment of the physician and not to the judgment of the Commissioner of Internal Revenue, or of the Secretary of the Treasury. The Attorney-General is also of the opinion that it was the intention of Congress to leave the physician unfettered by governmental control for the practice of his profession, but subject to criminal prosecution and revocation of his permit if he acts in bad faith. A regulation, therefore, putting a limit on the amount which could be prescribed in a given emergency, or during a given period of time would in the opinion of the Attorney-General be void. The Secretary, however, has clearly the authority to make regulations governing the manner in which liquor may be prescribed. The Attorney-General is also of the opinion that the commissioner and Secretary of the Treasury are without authority to limit the number of permits either in a particular section of the country or in the country as a whole. The opinion of the Attorney-General is, of course, simply a personal opinion for the guidance of the other members of the administration. As Mr. Palmer's opinion was issued in the last twenty-four hours of his official career, it is not necessarily binding on the new administration. Whether the new Attorney-General will take the same view of the subject remains to be seen.

LATIN AMERICA

Return of Dr. Torres.—The *Brazil-Medico* reports that Dr. Alvaro de Lemos Torres has returned to S. Paulo from the United States where he has been studying at the invitation of the Rockefeller Foundation for the last two years. He is assistant professor of clinical medicine in the S. Paulo medical faculty.

Election of Officers.—The Sociedad Peruana de Cirugía of Lima recently elected Dr. G. Gastañeta as president for 1921; Dr. E. Bello, vice president; Dr. L. de la Puente, second vice president, and Drs. R. Palma and C. Morales Macedo, secretaries, with Dr. F. Graña, treasurer.——The Sociedade de Medicina e Cirurgia do Amazonas has elected for the two-year term, 1921-1923, the following board: Dr. A. A. da Matta, president; Dr. G. Ramos, vice president; Dr. Fulgencio Vidal and Dr. Linhares de Albuquerque, secretaries, and Dr. Vivaldo Lima, treasurer.——The Sociedade de Medicina of Porto Alegre, Brazil, has elected for 1921, Dr. Sarmento Leite, president; Dr. Annes Dias, vice president, and Dr. G. Blessmann, secretary general. The committee in charge of the publication of the *Archivos Rio-Grandenses de Medicina*, the official organ of the society, comprises Drs. Dias, Lima Guedes and Gonçalves Vianna.

FOREIGN

Conferences of Belgian Eugenics Society.—The newly organized Société Belge d'Eugénique is holding a series of public lectures at Brussels on appropriate topics, Monday evenings. The lecturers are professors in the medical faculty, and the topics discussed recently were "The Venereal Peril" and "Eugenics from Sociologic Standpoint in Respect to Demography." The secretary of the society is Dr. Govaerts, 17 Grand'Place, Brussels.

Netherlands Committee Sent to Investigate Friedmann's Remedy for Tuberculosis.—The *Nederlandsch Tijdschrift* relates that the Netherlands minister has just received the report of the committee he sent to Berlin for this purpose. The committee consisted of Prof. C. H. H. Spronck, Dr. B. H. Vos and Dr. H. M. M. Eykel. According to the daily papers, their report states that nothing they saw or heard had convinced them that favorable results had been realized with the Friedmann remedy for tuberculosis, and hence that there were no grounds for introducing the Friedmann treatment into the Netherlands. They add that the underlying principle may be correct, however, and therefore assuming that the remedy is harmless, they propose to continue investigating it and will report to the authorities later on the outcome.

League for Prevention of Mental Disease.—The *Encéphale* states that the French Ligue de Prophylaxie et d'Hygiène Mentales is meeting with much encouragement. Nine committees have been appointed for different phases of the work, with leading physicians at the head of each, Legrain for alcoholism; Toulouse for dispensary and consulting centers; Briand for aid and legislation; Dupré for training in psychiatry; Antheaume for organization and propaganda; Colin for the "antisocial" committee; Lahy, occupational hygiene, and Klippel for general diseases and mental disturbances. Each committee comprises from eight to eighteen members at present. One of the aims of the league is to secure psychiatric treatment at the earliest possible moment, without internment in the majority of cases. Among the 20,000 psychiatric cases under observation at the psychiatric center at Val-de-Grâce during the war, only 5,000 had to be interned.

Deaths in Other Countries

Charles Alexander Cameron, Dublin, Ireland; F.R.C.S.I., and L.M., 1874; Royal University of Ireland, 1896; F.R.C.P.I., 1898; at one time president of and professor of chemistry and hygiene in the Royal College of Surgeons, Ireland; president of the Royal Institute of Public Health from 1889-1893; died, February 27.——Dr. **A. Torchio,** instructor in pathology at the University of Parma.——Dr. **Rivelli** and Dr. **L.**

Bernasconi of Buenos Aires, killed together in an accident. Both were connected with the Hospital Fernández of Buenos Aires. —— Dr. G. Zoratti of Udine contracted scarlet fever while examining a child with the disease, during a post-graduate course at Rome, and succumbed to the hemorrhagic nephritis which developed.

CORRECTION

"Results of Operation for Varicocele."—In the article by Dr. John Douglas on this subject (The Journal, March 12, page 717), the statement "There were 303 patients operated on for hydrocele" should read "operated on for varicocele."

Government Services

Rutland Sanatorium Is Leased by Public Health Service

The model tuberculosis sanatorium nearing completion at Rutland, Mass., originally established by the New England Sanatorium Association, has been leased by the U. S. Public Health Service. Extensive improvements in the way of enlargement will be made and the institution originally constructed to accommodate 100 patients will ultimately care for 300.

Confirmation of Medical Corps Personnel

Although several thousand recommendations for promotions of officers in the infantry, cavalry and artillery branches of the regular army, whose names were submitted to the Senate during the last session, failed of confirmation—every member of the commissioned personnel of the Medical Corps was confirmed. The records show that two captains were advanced to the rank of majors and that 148 first lieutenants were promoted to captains on the recommendation of the President and that the Senate confirmed the entire list.

Improvements in Sanatoriums Suggested

The tuberculosis specialists, who at the request of Surgeon-General Cumming of the U. S. Public Health Service, have been visiting tuberculosis hospitals belonging to and operated by the government, have completed their task and submitted their suggestions for the improvement of the care and treatment of patients. Steps to put into effect their suggestions were immediately taken by the U. S. Public Health Service. The additional employment of personnel was one of them and the following specialists have been added to the U. S. Public Health Service staff: David Lyman, Wallingford, Conn.; Victor Cullen, Maryland State Sanitarium; Martin V. Sloan, Towson, Md.; George Thomas Palmer, Springfield, Ohio, and Henry Hoagland, La Jolla, Calif.

Public Health Service Issues Standard Sanitary Code

The U. S. Public Health Service has issued a Standard Sanitary Code which has been approved by a conference of state and provincial officers of health and is recommended to the several states for adoption. The new code deals with the transportation of persons having communicable diseases; it also pertains to water and ice supplies; with the cleaning and disinfection of cars; with sanitation in railway stations and with railway construction camps. The code revises the existing regulations covering the certification of water used for drinking and culinary purposes on railroad trains and also the character of ice provided by the railway companies for the public. A study has been conducted for more than a year by the U. S. Public Health Service on this subject and many health officers in various states of the Union have joined in the work of regulation of water supply for railroad trains.

Transfer Tuberculosis Patients to East

The influx of former veterans of the World War from eastern states to the semi-arid Southwest has resulted in a serious problem for the U. S. Public Health Service due to the fact that the government hospitals and contract hospitals in that section are crowded with tuberculosis patients and it has been necessary to transfer patients from Tucson, Ariz., and other western sanatoriums to Asheville, N. C., and elsewhere in the East. Many ill-advised soldiers have of late thronged to Tucson, unmindful of the fact that every bed in that place is filled and every hotel and boarding house overcrowded. More than 500 tuberculosis subjects in Tucson are unable to find entrance into the sanatorium. Other towns in the Southwest report similar conditions and Surgeon-General Cumming of the U. S. Health Service has issued a warning against leaving their homes where the government is able to care for them and going to the Southwest on their own initiative.

Public Health Service Takes Up Care of Lepers

The U. S. Public Health Service has started concentrating lepers, who are scattered in various parts of the country, at the Federal Leprosarium at Carryville, La. This home for lepers was recently taken over by the government after its sale was authorized by the state legislature of Louisiana. Dr. Oswald E. Denny of the U. S. Public Health Service was placed in charge and extensive improvements are to be effected this year. An appropriation of $200,000 was granted by Congress to remodel the leprosarium. Its present capacity is fifty patients, but this will be increased to 500 patients. Additions and alterations will include new dormitories, a power plant, laundry, amusement hall and chapel. Ultimately the Public Health Service plans to enlarge it so that all cases of leprosy that develop in the United States will be sent to Carryville. It is estimated now that there are over 600 patients in various parts of the country, all of whom will be concentrated in this federal institution. An army hospital car is now proceeding to Bedford, Mass.; Bridgeport, Conn.; Washington, D. C., and Richmond, Va., collecting lepers to transport them to Carryville.

Foreign Letters

PARIS

(From Our Regular Correspondent)

Feb. 18, 1921.

Abuse of Hospital Privileges by Persons of Means

At a recent meeting of the Conseil d'Administration du Syndicat Médical de Paris, Dr. Lapointe, surgeon to the hospitals, discussed the suggestions made by the various medical societies of Paris and vicinity as to the best means of dealing with the abuses that result from the conditions under which patients with adequate means are admitted to the hospitals. At the end of his report he offered these conclusions:

1. The hospitals of the City of Paris should be reserved, in the main, for persons who have not sufficient means to be cared for and operated on in their homes or in the *maisons de santé*.

2. Patients whose names are not already inscribed in the ward list of those receiving regular assistance from the city should be required to sign a request for free medical assistance, before being admitted to the city hospitals.

3. Patients who will not sign the request for free medical assistance thus admitting that they possess adequate means should be required to pay the medical fees, which should be added to the charges for board and room and use of the operating room.

4. Paying patients should be subjected to the same régime as the indigent and persons of limited means.

5. The City of Paris, with the aid of the state, should establish, separate and distinct from the hospitals, and without the aid of the public charity funds, *maisons de santé* in various sections of the city. All physicians and surgeons should be free to practice in these sanatoriums at will. These *maisons de santé* should be managed on a nonprofit-producing basis. The minimal tariff rates for board and room and use of the operating room should be the same as in the hospitals.

6. The hospital rates for board and room should be reduced to the level of the lowest rates of the municipal *maisons de santé*. For an ordinary consultation the rate should be at least equal to the average charge for an ordinary consultation

in a physician's private office. In case a dressing, the application of an appliance or a slight surgical operation not necessitating hospitalization is required, the charge for the consultation should be doubled. For treatment necessitating hospitalization, a per diem charge equal to the price of board and room should be made in the strictly medical services, and a charge equal to twice the price of board and room for the surgical services, to which should be added a charge for the use of the operating room (if it was used) to be regulated by the lowest schedule of the municipal *maisons de santé*. A reduction of 50 per cent. of the medical fees and the operating room charge should be made in favor of persons suffering from industrial accidents and of army and navy pensioners.

The conclusions of Dr. Lapointe's report were adopted with only one dissenting vote.

Liability of a Pharmacist for Error Committed by an Assistant

By mistake, a pharmacist's assistant had affixed to the container of a mixture intended for external use the label of a certain potion, while to the latter he had attached the red label: "For external use." The mixture intended for external use (extract of eucalyptus and tincture of benzoin) was administered to a child suffering from grave bronchopneumonia, to which disease he succumbed. The medical expert testified that the real cause of death was the disease bronchopneumonia in the advanced stages, and that the mixture had produced no internal disturbances, as its toxicity was very slight. Nevertheless, the court found in favor of the plaintiff, basing the decision on three items:

Though it is not definitely established that the absorption of the mixture was the direct cause of the death of the child, it is nevertheless true that death followed shortly after its absorption.

Though the death of the child should be attributed to the double bronchopneumonia in the advanced stages, it is not established that the condition of the patient was not markedly aggravated by the absorption of an irritating, toxic liquid which, through a dangerous error, was substituted for a sedative.

Charged as they are with extremely delicate and minute tasks, on which the life and health of patients may depend, it becomes the duty of pharmacists and their aids and representatives to use the utmost care in the exercise of their profession, particularly as regards the filling of prescriptions.

Physicians for French Colonies

Physicians who hold diplomas showing that they have pursued special courses in colonial medicine are being sought to serve in the French possessions of western Africa. They will be given contracts assuring them an initial annual income of from 25,000 to 26,000 francs; namely, 20,000 francs salary; from 1,500 to 2,000 francs for field work, and from 3,000 to 5,000 francs in the form of various bonuses. Other large colonies, such as Indochina, Madagascar and French equatorial Africa, will doubtless soon make similar offers to European civilian physicians.

Second Congress of School Hygiene

The Ligue française d'hygiène scolaire and the Société des médecins-inspecteurs des écoles de la Ville de Paris have organized a congress of school hygiene to be held, April 1-3, 1921, in the halls of the medical department of the University of Paris. The congress is placed under the patronage of the ministers of public instruction, public hygiene and public welfare. These are the subjects that are on the order of the day for discussion: (1) the hygienic and pedagogic organization of open-air schools; (2) instruction in hygiene in schools, and (3) medical inspection of schools; school canteens or lunch rooms.

BELGIUM

(From Our Regular Correspondent)

Feb. 4, 1921.

Public Health in the Belgian Congo Region

The middle of December, there met at Brussels a so-called colonial congress, which endeavored to solve divers problems of an economic, political and industrial nature affecting the colonies. But in addition to such questions, the members of the congress also sought to strengthen the public health service and to find ways and means of spreading information with regard to the new regulations pertaining to the campaign against tropical diseases and depopulation. Monsieur Francq, colonial minister, told what had been accomplished so far in the fight against infectious disease; and several things that he brought out in his report merit attention. As he had recently returned from a trip to the Congo, he was in position to give a first-hand account of the actual needs, and, for that reason, great value may be attached to his statements. Speaking of the comparative hygienic conditions among the white and black races, the minister pointed out that in the Congo region the whites suffer less from tropical diseases than the blacks. The progress in public health that has been made by Europeans is truly remarkable, as is shown by statistics and proved by daily experience. The hospitals for the whites are almost empty. As regards the natives, the conditions are not so good—not among the Belgians nor among our neighbors, the French and English. However, it is an exaggeration, and not justified by authentic reports, to say that the population of the Congo has decreased one half since the arrival of the Europeans. It is, however, undoubtedly true that the population is decreasing instead of increasing, that the death rate for children is entirely too high, that the young natives are succumbing in great numbers to epidemic scourges, and that there are very few old persons to be seen. What should be done to remedy this state of affairs? The reply is: Increase the number of physicians. After the war there were only forty physicians all told, but by the end of next year this number will be doubled. The budget for public health work is to be tripled. What the Belgians are doing in this respect in their colony is at least on a par with what our neighbors are doing. A good many of the nurses who were taking care of our soldiers at the front have gone to Africa and are fulfilling their mission with great success. The missionaries, whose absolute devotion deserves the greatest admiration, by taking a course of study in tropical medicine will increase their sphere of usefulness among the natives, with whom they have lived for many years in all parts of the colony. If the native people are to be developed, we must be able to count on them, as well, in the campaign against disease. With this idea in view, it has been decided to organize training schools for native medical assistants—these to be located in various parts of the country, but more especially in the interior, near to villages and mission and post stations. They will be equipped with a small dispensary and a moderate supply of drugs. They will be under the surveillance and inspection of physicians. By the end of ten or more years, it is thought possible to train several hundred native medical assistants. The negroes think that almost all diseases are due to witchcraft. If, some day, some one of their own race succeeds in demonstrating to them the true origin of disease, that will sound the death-knell of the profession of sorcerers, and will mark an era in the progress of medicine.

The Native Population of the Congo Region

In a previous letter, the return of the mission headed by Dr. Marcel Dossin, a pediatrician of Brussels, was mentioned. His instructive report greatly interested the colonial authorities. He found high mortality among children in the

Congo. He concluded that in order to combat successfully this condition, it would be necessary to entrust to the missionaries the development of child welfare work; for the colonial physicians, although their devotion to duty is worthy of all admiration, have not the time for it, for they are already overworked by their extensive practice among the white population, having to accommodate themselves to many inconveniences, or they are frequently absorbed in laboratory work.

Furthermore, the physicians, for the most part, are located in the principal centers, where there are few children. The success of the child welfare work that has already been launched at Kisantu and at Henifu furnishes sufficient evidence of what can be accomplished in this manner. Experience shows that a decrease in the mortality rate in Africa can be effected with a small outlay of money. At the session of the colonial congress, Dr. Groden, director of the school of tropical medicine, confirmed the foregoing statements and cited some interesting figures, which serve as a complement to Dr. Dossin's report. He discusses conditions under three different heads:

THE SANITARY SITUATION AMONG NATIVES

The mortality rate among the blacks in the service of Europeans is much above the average. Recent statistics show a rate of from 5.7 to 10 per cent. for certain units. The same is true of the natives not in the service; at least in the regions invaded by trypanosomiasis, where 10, 30 and even 46 per cent. of the population have sometimes died in two or three years. The birth rate is usually low. Recent statistics show in the regions only slightly affected by trypanosomiasis approximately five children in six households. Child mortality, especially, is high, ranging between 25 and 50 per cent.

THE CAUSES OF THIS UNFAVORABLE INSANITARY SITUATION

The high mortality rate among the blacks in the service is caused partly by affections that were doubtless common before the advent of the Europeans (respiratory and intestinal), and partly by diseases introduced more recently (typhoid, cerebrospinal meningitis, tuberculosis and venereal affections). Among the natives not in the service, trypanosomiasis is one main cause of death. The low birth rate and the high death rate among children are due partly to social causes and partly to disease. Venereal affections and trypanosomiasis play the principal rôle.

THE REMEDIES NEEDED TO IMPROVE THE SITUATION

As a general statement, it may be said that we should make use of the services of the black man, not as if he were a tool easily replaced, but as an object of great value or as if he were a part of an inheritance entrusted to our care. When the natives are to be employed in the service of Europeans, great care should be taken in transportation. They should be given good quarters and good food. Strict hygienic regulations should be enforced, and the medical service should be well organized. Social conditions should be improved with a view to giving them the comforts of family life. Medical assistance among the natives should be much extended and should include prophylaxis against trypanosomiasis. The carrying out of this program will necessitate a numerous sanitary personnel, the basis for which should be the colonial physician. He should be aided, and for some kinds of work might be replaced, by sanitarians, nurses, midwives, missionaries and "sisters." The European personnel could be aided by native microscopists and possibly, later on, by native midwives. This organization, which has already been effected, will raise the birth rate and lower the mortality rate. The same principles should be applied also by the commercial companies.

Conferring of a Special Distinction

Dr. Welch, professor of clinical medicine in Johns Hopkins University Medical Department, has been elected an honorary member of the Royal Academy of Belgium.

BERLIN

(From Our Regular Correspondent)

Feb. 3, 1921.

The Development of Social Hygiene

As social legislation may be said to have begun in Germany and has possibly been more highly developed here than elsewhere, German physicians have devoted themselves earnestly to the study of occupational diseases and their prophylaxis. Their studies have extended to the social conditions prevailing in working men's families and in the families of other industrial classes. It is, therefore, quite natural that in Germany, above all, a field of investigation should have early opened up to which the authors who were the first to study these subjects systematically have applied the terms "social hygiene" and "social medicine." The present ministerial director of the medical department of the Prussian ministry of public welfare, Professor Gottstein, who has been especially prominent in developing this new branch of medical science, has introduced the term "Sozialärzte (social physicians) to designate the physicians who make a specialty of social hygiene, whereas he terms the physicians who pursue the usual course of medicine "Heilärzte" (therapeutists). In regard to the significance and limitation of the terms social medicine and social hygiene, there is no common agreement as yet. Instructors in general hygiene in the universities object, to some extent, to social hygiene's being regarded as a separate subject. In spite of their objections, however, there can be no doubt that social hygiene will hold its place as a special subject in the university curriculum. Social hygiene has been defined as that branch of public hygiene which deals with the influences that human society in general exerts on health conditions. Social medicine or, more exactly, social pathology, to use the term proposed by the social hygienist Grotian, who has been appointed to the chair of social hygiene in the University of Berlin (the first chair of the kind to be established in a German university), deals, in contradistinction to the hospitals, not with the disease of the individual but with the diseases of persons who constitute local and social groups. Gottstein differentiates general hygiene from social hygiene, from the professional standpoint; general hygiene (also called laboratory or biologic hygiene), by the aid of experiment and by the use of generally accepted experimental facts, establishes the needs of the factory workmen as regards food, air, heat, sanitation, working rooms, etc., and describes what is needed to carry out these requirements. Social hygiene, on the other hand, collects and sifts the sum total of knowledge in regard to the actual conditions of health prevailing in the various trades and professions, and considers carefully and critically the question as to what extent the nature of the employment itself and in how far other influences lying outside the trade or profession enter into account. The determination of the minimal age for juvenile employees; the influence of instruction given unskilled workmen in chemical works where poisons are manufactured, and the management of compulsory notification in industrial diseases are matters that cannot be tested out in the laboratory and must be examined into by different methods. From this point of view, aside from industrial hygiene, there are various other endeavors that come under the head of social hygiene, such as infant welfare, child welfare, juvenile welfare, prospective mothers, puerperants, alcoholics, the tuberculous, venereal patients, cripples, and housing problems. Social hygiene and general hygiene overlap along certain lines, and that is one reason why university

professors oppose the segregation of social hygiene. Among the "social physicians," to which class, strictly speaking, belong only those physicians who are employed as experts in social hygiene, the physicians who take over the control of the public health of more or less extensive districts, as so-called administrative physicians or communal physicians, play an important rôle. A number of the larger cities already have such communal physicians; for example, Berlin and some of its suburbs (Charlottenburg, Schöneberg), Cologne and Stuttgart, and more and more cities are endeavoring to enter this circle. In the rural districts such communal physicians have charge also of the district public welfare offices, which have sprung into being very rapidly during recent years. In the special training of communal physicians, the Prussian ministry for public welfare established, a few months ago, certain special requirements, according to which physicians who serve the city or county administration as medical advisers in all questions of public health and social hygiene must not only have studied the principal subjects of social hygiene but must have in addition as much knowledge of general hygiene as the state public health officers. Furthermore, they must possess a knowledge not only of social legislation proper but also of all medical and health legislation that bears on social legislation. They must likewise understand statistical methods employed in medicine. The academy for the practice of medicine in relation to social hygiene, planned by Charlottenburg at the instance of Professor Gottstein, will incorporate these ideas. Instruction will be given in the hospitals and the welfare units of the cities, preference being given to those that are conveniently located and are up to date. The courses of instruction will be obligatory (or required electives) for those who intend to apply for appointment as county, communal or school physicians, and wish to give evidence of having received special professional training. The number of those admitted to the required courses will usually be limited to thirty.

Vital Statistics of Berlin During Recent Years

The number of children born in Berlin in 1913 was 40,846, but seven years previously the births reached the remarkably high total of 51,460. In 1914 the births dropped to 37,509, and in the following years of the war were still farther reduced: in 1915, 31,000; 1916, 22,713; 1917, 18,725, whereas in 1918, and more particularly during the second half of the year, an increase was again noted, the statistical report showing 20,228 births, an increase of 1,507 over 1917. The birth rate for 1913 was 19.6; 1914, 18.5; 1915, 16.5; 1916, 12.7; 1917, 10.7, and 1918, 11.6. The birth rate for 1917 is the lowest on record. Not until August, 1919, was there any marked improvement in the birth rate. In the previous months it had ranged between 10 and 11, but in August it suddenly shot up to 16. In the following months, it continued to rise and finally, for certain months, went above that of the prewar period.

The mortality rate has taken just the opposite course. In 1913, the death rate was 13.5; 1914, 14.6; 1915, 15.2; 1916, 15.1; 1917, 19.6, and in 1918, 20.5. The effects of the food blockade do not appear with full force until 1917, but then become very marked. The reappearance of influenza in 1918 added its quota to the mortality and raised the death rate slightly above that of 1917 and 50 per cent. above that of 1913. As regards the causes of death, the number of deaths from tuberculosis of the lung and throat, in men, increased from 1,800 in 1913 to 2,621 in 1917 and 2,411 in 1918. That women were even less able to resist tuberculosis of the lung and throat is shown by the increase in the number of deaths from this cause during the period from 1913 to 1919: 1,465, 1,461, 1,427, 1,665, 2,427, 2,554 and 2,208. As further causes of death during the war period we may compare 628 deaths from old age, in men, with 276 in 1913; 1,742 deaths from heart disease as against 1,232; 1,059 deaths from vascular diseases as compared with 636, and 2,037 deaths from pneumonia and other diseases of the lung and pleura as over against 1,375. Similar findings are recorded for women. In 1913, 3,480 died in the age group 50-60; in 1917, 4,710. For the 60-70 age group the figures are 3,998 and 6,159, for the 70-80 age group, 3,231 and 6,160, and for age 80 and over 1,457 and 2,711. The increase in the number of deaths in 1917, as compared with 1913, rose, for the most part, with each decade, the sixth decade showing an increase of 35.3 per cent.; the seventh, 54.1 per cent.; the eighth, 90.7, and the age group 80 and above, 86.1 per cent.

The infant mortality rate (0-1 age group) tells the same story: 1913, 13.5 per cent.; 1914, 15.2; 1915, 12.5; 1916, 11.3; 1917, 14.3; 1918, 15.1, and 1919, 16.5 per cent. The unusually high rate for 1914 was due, in part, to the excessively hot summer of that year. In July, 1919, the number of births again rose above the number of deaths, and in September and October the excess of births over deaths was remarkably high. The reappearance of the influenza during the last months of 1919 and the beginning months of 1920 brought a slight temporary increase of deaths over births.

The Campaign Against "Patent Medicines"

The fight against "patent medicines," which, in consequence of a lack of adequate legislation, are flourishing in Germany today in spite of many regulations on the part of the authorities, was given a "boost" by recent tax legislation. A law has been passed requiring all professions, physicians included, to pay a certain tax on their gross receipts, and a tax of 15 per cent. of the selling price has been imposed on "patent medicines." According to this law, all therapeutic and prophylactic remedies and tonics, whether intended for man or beast, if the assumption seems warranted that the remedies are injurious to health or at least not beneficial to health, or that they may lead to exploitation or may mislead by the manner in which they are advertised, may be regarded as "patent medicines" (secret remedies). Circumstances that may be taken as justifying such an assumption are that the substances or ingredients or their proportion are kept secret, or that in exploiting the remedies deceptive or exaggerated claims in regard to their therapeutic action are made. Every manufacturer will be given the opportunity of sending to the committee of experts to be appointed by the minister of finance all the material necessary for forming an estimate of their remedies, such as composition, chemical analysis, opinions of physicians, samples, method of manufacture and the selling price. It is hoped that, in view of this legislation, all manufacturers of medicines will find it to their interest to comply with the established requirements, in order to avoid the increased cost of the remedies due to taxation, and to prevent their remedies being classed as "patent medicines." But, owing to the unscrupulous character of "patent medicine" swindlers and the cunning with which they ply their trade, it is to be feared that they will in many instances find means of thwarting the purpose of the law.

Marriages

LEIGH AUSTIN FULLER, Col., M. C., U. S. Army, to Mrs. Ruth Steele of Reno, Nev., at Fort Riley, Kan., February 19.

JUNIUS WINFIELD STEPHENSON to Miss Ruth Story Walther, both of New York, February 23.

EDWARD FRANK SLAVIK to Miss Anna Mae Lustig, both of Chicago, February 23.

ALEXANDER SCHOMER to Miss Ethel Lewitt, both of New York, February 26.

CHARLES SIDNEY BLEUMEL to Miss Elinor Hensley, both of Denver, March 3.

Deaths

Joseph Ransohoff ⊕ Cincinnati; Medical College of Ohio, Cincinnati, 1874; F.R.C.S. (Eng.), 1877; aged 67; professor of anatomy, 1879-1881, anatomy and clinical surgery, 1891-1902, principles of surgery, 1902-1905, and surgery and clinical surgery since 1905 in his alma mater; surgeon to the Cincinnati, Good Samaritan, and Jewish hospitals; a member of the American Surgical Association; Southern Surgical and Gynecological Association and Western Surgical Association; died, March 10.

Matthew Derbyshire Mann, Buffalo; College of Physicians and Surgeons in the City of New York, 1871; aged 75; a member of the Medical Society of the State of New York; emeritus professor of obstetrics and gynecology at the University of Buffalo; gynecologist and obstetrician to the Buffalo General Hospital; a member and in 1894 president of the American Gynecological Society; died, March 3.

Carl Wagner ⊕ Chicago; University of Heidelberg, Germany, 1891; aged 57; surgeon to St. Joseph's Hospital and Municipal Tuberculosis Sanatorium; at one time president of the Medico-Legal Society, and North Side Branch of the Chicago Medical Society; died, March 11, from cerebral hemorrhage.

Leo Lake Jameson, Easley, S. C.; Atlanta (Ga.) School of Medicine, 1913; aged 29; a member of the South Carolina Medical Association and at one time secretary and treasurer of the Pickens County Medical Society; health officer of Easley; died, February 27.

Victor O. Humphreys, Port Allegany, Pa.; College of Physicians and Surgeons, Baltimore, 1913; aged 35; died, February 15, from a gunshot wound in the head, self-inflicted, it is believed, with suicidal intent while despondent on account of ill health.

Otto Ehlinger, College Station, Texas; Tulane University, New Orleans, 1900; aged 49; a member of the State Medical Association of Texas; surgeon at the Agricultural and Mechanical College of Texas since 1910; died, February 28, from heart disease.

Robert Allan Torrance ⊕ Asst. Surg., Lieut. (j. g.), M. C., U. S. Navy, Norfolk, Va.; University and Bellevue Hospital Medical College, 1914; aged 31; physician of the U. S. S. *Chattanooga;* died in a hospital at Gillingham, Kent, England, February 25.

Henry Benjamin Wilson ⊕ San Diego, Calif.; Bellevue Hospital Medical College, 1887; aged 64; at one time professor of physiology and hygiene in the Chattanooga (Tenn.) Medical College; died, February 27, from heart disease.

James Milton McComas ⊕ Elk City, Okla.; Hospital College of Medicine, Louisville, Ky., 1875; Kentucky School of Medicine, Louisville, 1880; aged 71; died, February 22, from septicemia following extraction of a tooth.

Thomas Gray, Acton, Ont.; McGill University, Montreal, Que., 1879; L.R.C.P. (Edin.), L.F.P.S. (Glas.), 1883; died, January 24, from septicemia following an infected wound of a finger sustained during an operation.

Alfred W. Latimer, St. Louis; Beaumont Hospital Medical College, 1893; aged 51; was instantly killed at a grade crossing, February 26, when the automobile in which he was riding was struck by a passenger train.

George Washington Allyn, Pittsburgh; University of Michigan, Ann Arbor, 1878; aged 75; a member of the Medical Society of the State of Pennsylvania; a veteran of the Civil War; died, February 26.

Waldo James Lussier, Woonsocket, R. I.; College of Physicians and Surgeons, Baltimore, 1911; aged 41; lieutenant, M. C., U. S. Army, and discharged, Oct. 23, 1917, died, March 7, from nephritis.

Joseph L. Eyman, Eldorado, Kan.; Northwestern Medical College, St. Joseph, Mo., 1887; aged 61; at one time contract surgeon, U. S. Army; died, February 23, from chronic interstitial nephritis.

George Kellogg Welch, Hartford, Conn.; College of Physicians and Surgeons in the City of New York, 1878; aged 64; a member of the Connecticut State Medical Society; died, February 21.

Elmer T. Sherwood, Linton, Ind.; Missouri Medical College, St. Louis, 1882; aged 61; a member of the Indiana State Medical Association; died, February 20, from diabetes.

Ralph Elmer Robinson ⊕ Nunda, N. Y.; University of Buffalo, 1914; aged 29; lieutenant, M. C., U. S. Army, and discharged, Dec. 3, 1918; died, February 18, from Hodgkins disease.

Carl Victor Malmgren ⊕ Virginia, Minn.; Rush Medical College, 1895; aged 53; died in the Presbyterian Hospital, Chicago, February 28, from carcinoma of the stomach.

Nelson W. Washington, Toronto, Ont.; Victoria University, Cobourg, Ont., 1872; for twenty years a practitioner of Milwaukee; died, February 6, from cerebral hemorrhage.

Thomas Hossack, Lucan, Ont. (license, Ontario, 1869); aged 76; coroner of Middlesex County for fifty years; died, February 15, from cerebral hemorrhage.

Stanley P. Black ⊕ Los Angeles and Pasadena, Calif.; Chicago Medical College, 1885; aged 61; at one time health officer of Pasadena; died, February 4.

Samuel George Thompson, Toronto, Ont.; Bellevue Hospital Medical College, 1880; L.R.C.P. (Edin.), L.F.P.S. (Glas.), 1882; aged 64; died, January 30.

Gregory S. Miller, St. Louis; St. Louis Medical College, 1888; aged 53; a member of the Missouri State Medical Association; died, Dec. 23, 1920.

Julius Maltby Dutton ⊕ Westfield, Mass.; Dartmouth Medical School, Hanover, N. H., 1903; aged 43; died, Januery 29, from lethargic encephalitis.

Laura Colby Price, Monmouth, Ore.; Northwestern University Woman's Medical School, Chicago, 1895; aged 63; died, March 6, from diabetes.

Hilem E. Branch, St. Louis, Mich. (license, Michigan, 1900); aged 82; for half a century a practitioner of St. Louis; died, February 22.

Edward Herbert Byron, Riverdale, Calif.; California Medical College, San Francisco, 1900; died in Livermore, Calif., February 23.

James Edward Duncan, Pittsburgh; Western Pennsylvania Medical College, Pittsburgh, 1895; aged 55; died, February 20.

Eli J. Thomas, Willow Grove Pa.; Jefferson Medical College, 1878; aged 72; died, February 18, from cerebral hemorrhage.

Francis Juat ⊕ Raeford, N. C.; University of Berne, Switzerland, 1882; aged 60; died, January 29, from heart disease.

Rosetta Luce Gilchrist, New York; Homeopathic Hospital College, Cleveland, 1890; aged 68; died about February 18.

Marcus Lindsay Cooper, Okolona, Ky.; Kentucky School of Medicine, Louisville, 1859; aged 84; died, February 15.

James W. Smith ⊕ Monroe, Ga.; Georgia Eclectic Medical College, Atlanta, 1879; died, February 2, from pneumonia.

George Spaulding Green, Burlington, Vt.; University of Vermont, Burlington, 1873; aged 82; died, February 12.

William Fletcher Hall ⊕ Crisfield, Md.; University of Maryland, Baltimore, 1885; aged 63; died, February 17.

Archibald Henderson, Hamilton, Ont.; University of Toronto, Ont., 1906; died, February 12, from pneumonia.

Benjamin Franklin Holmes, Indianapolis; Miami Medical College, Cincinnati, 1880; aged 71; died, February 19.

Tobias S. Gerhart, Reading, Pa.; University of Pennsylvania, Philadelphia, 1864; aged 85; died, February 21.

John Broadus Stepp, Spartanburg, S. C.; Atlanta (Ga.) Medical College, 1887; aged 58; died, February 21.

Max Otto Klotz, Ottawa, Ont.; University of Toronto, Ont., 1895; aged 46; died, January 31, from pneumonia.

Hugh Smith Bingham, Toronto, Ont.; Trinity Medical College, Toronto, 1885; aged 66; died, Dec. 22, 1920.

Samuel P. Schwing, Plaquemine, La.; Tulane University, New Orleans, 1887; aged 57; died, February 19.

John Sumpter King, Toronto, Ont.; Victoria University, Cobourg, Ont., 1879; aged 78; died, February 14.

John H. Spitler Dayton, Ohio; Medical College of Ohio, Cincinnati 1879; aged 69; died, February 21.

Ralph C. Klepser, Altoona, Pa.; Bellevue Hospital Medical College, 1878; aged 65; died, February 21.

E. A. Taylor, Kenton, Tenn. (license, Tennessee, 1889); aged 75; died, February 7, from smallpox.

Isom Burton, Mitchell, Ind.; University of Michigan, Ann Arbor, 1868; aged 80; died, February 2.

Jesse Hall Reed, San Diego, Calif. (license, Michigan, 1901); aged 66; died, recently.

⊕ Indicates "Fellow" of the American Medical Association.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

EDWARD J. WOODS, INC.—A FRAUD

A Fake Tobacco Habit Cure Is Denied the Use of the Mails

No longer will the Edward J. Woods fakery, exploiters of fraudulent drink and tobacco habit cures mulct the American public. On Feb. 24, 1921, "the Postmaster-General issued a fraud order against Edward J. Woods, Inc., and its officers and agents as such, at Station F, and 534 Sixth Avenue, and 142 East 32nd Street, New York."

More than nine years ago—to be exact Feb. 17, 1912—Edward J. Woods' fraudulent "cures" for the liquor habit and the tobacco habit, were exposed in these pages. This article, which has been reprinted in full in "Nostrums and Quackery" (second edition) summarized the case against Woods' cure for the drink habit as follows:

"Edward J. Woods, then, who is willing to acknowledge that he 'was rarely sober in sixteen years,' is at present engaged in selling a mixture of tartar emetic and milk sugar under the fraudulent claim that it will cure alcoholism in 72 hours. As an accomplice, he has employed a woman physician who is a disgrace to her profession — a woman, whose wicked falsehood regarding, and inferential slander of, a dead President makes it easy to classify the concern that stands sponsor for it. By means of lying advertisements and fake analyses, Woods will rob the wives and children of inebriates on the specious claim that his worthless mixtures when secretly given will release the father or husband from the thraldom of alcoholism. Week after week money that in many cases should go to purchase the necessaries of life is emptied into the coffers of a man whose past life he admits was a disgrace and whose present existence we believe is a calamity. Knowing that the chances are not one in a thousand that those who are, in their ignorance, trying secretly to cure members of their immediate family of alcoholism, will be willing to risk the publicity that a demand for the return of their wasted money would bring, Woods calmly continues his nefarious trade unmolested and unafraid."

ARE YOU COMMITTING SLOW SUICIDE?

A Valuable New Book Dealing in Plain Terms with the Dangers of the Tobacco Habit Describes a Simple, Easy Home Method Which Conquers All Craving in a Few Hours

AN EXTRAORDINARY PROPOSAL AND WHY I MAKE IT

WHY TOBACCO IS DEADLY

DEADLY IN ALL ITS FORMS

STUPEFIES THE BRAIN

HOW THE SYSTEM IS WEAKENED

FREE

TOBACCO Habits

TO YOU

CAUSES PREMATURE DEATH

THE REASON WHY WILL-POWER FAILS

I WANT YOU TO HAVE MY BOOK

The Arch Destroyer of Efficiency; Deadly Enemy of Mind and Body—TOBACCO!

Greatly reduced reproduction of one of the circulars sent to those who answered the Woods advertisement. The original of this was 16 in. wide by 10 in. deep.

So much for the "drink cure." Woods' "tobacco cure" was also analyzed in the A. M. A. Chemical Laboratory and it was found that among the tablets that constituted the treatment there were some of asafetida and methylene blue. The purchaser was told that one of the signs of a cure was that of offensive-smelling perspiration and a strong odor from the bowel excrement, while the "greenish color" of the urine was "proof positive" that the tobacco poisons were being eliminated through the kidneys! In the closing paragraphs on the "tobacco cure" we said:

"That individuals who have made up their minds to give up the use of tobacco may do so coincidently with the taking of Woods Treatment is doubtless true. That the treatment itself has any value as a cure for the tobacco habit, no one who is competent to express an opinion could admit. While not as cruel a humbug as his 'cure' for alcoholism, his tobacco habit cure is just as fraudulent and just as worthless."

While it is not necessary to give in any great detail the government's case against Edward J. Woods, Inc., there are some interesting facts brought out by Judge W. H. Lamar, Solicitor for the Post Office Department, in his memorandum to the Postmaster-General recommending the issuance of a fraud order. The Woods concern was called upon July 12, 1920, to show cause on or before Aug. 10, 1920, why a fraud order should not be issued against it. A continuance was granted to August 31 and later postponed further to September 9, both delays being given on the application of W. J. Fallon, a New York lawyer who was counsel for Woods. On September 9, W. J. Fallon, accompanied by associate counsel I. Lazarus and G. R. Simpson, both of New York, appeared at the office of the solicitor for the Post Office Department for the hearing. Practically all of the government's case was put in on that day and at the conclusion of that day's session the attorneys for Woods requested a further continuance to September 20. This was granted and the taking of testimony in the case was completed on September 20 and 21, Woods being represented on those dates by Messrs. Fallon and Simpson. These gentlemen then asked that they be allowed to appear on October 5 for the purpose of arguing the case and filing any further matter which they might desire to offer. Their request was granted. The lawyers did not appear on that date and the office of W. J. Fallon telephoned the government that Mr. Fallon would appear on October 6 or 7. He did not appear and on October 20 was advised that the case would be held open until October 26. On October 25 another telephone message was received from Mr. Fallon's office stating that he had been ill and asking a further extension until November 8. This extension, also, was allowed but Fallon again failed to appear nor did any other person connected with the Woods concern appear in connection with the case at any time.

The government's case dealt exclusively with the alleged cure for the tobacco habit, although, as the fraud order has been issued against Edward J. Woods, Inc., this will have the effect of putting the "drink cure" out of business also. The solicitor's memorandum calls attention to the fact that Edward J. Woods, Inc., was selling through the mails medicines alleged to be for the cure of the tobacco habit and that business was solicited, as is always the case, by means of advertisements placed in newspapers and other publications. Those who answered the advertisements received a pamphlet alleged to have been written by Edward J. Woods. Of this pamphlet the memorandum says:

"The representations contained in this circular matter are obviously designed, first, to create in the mind of the reader fear of the disastrous effects of the tobacco habit, and thereby stimulate demand for the Woods remedies, and, second, to induce the reader to believe that he should not rely upon his own will power to stop the habit, but should purchase the Woods treatments."

In addition to the pamphlet there were leaflets. Thus the memorandum:

"Accompanying the circular matter containing the foregoing representations are leaflets containing large cuts depicting so-called 'hypothetical cases' showing the dire results following the use of tobacco. One picture is headed 'Almost Deliberately Committing Suicide' and shows a physician bandaging a man's leg. Another picture is headed 'Failing

Eyesight and Blindness due to Tobacco.' Another shows 'How Terrible Diseases are Spread,' with an alleged scene in a tobacco factory. One picture shows a man in the midst of his family suddenly gone insane, and is headed 'He Was an Inveterate Cigarette Smoker.' Another picture shows a death-bed scene, under which is printed 'Why He Died Forty Years Too Soon.'

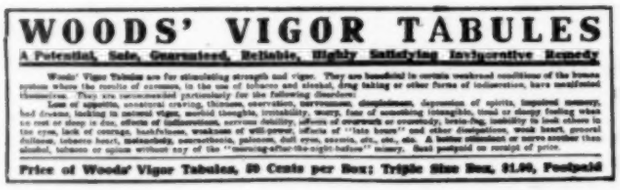
"The evidence shows that while the immoderate use of tobacco aggravates some of the conditions referred to above, the foregoing representations with respect to the harmful effects directly attributable to the immoderate use of tobacco are false. It is deemed unnecessary to set forth in detail all of the testimony with respect to the foregoing representations. However, it may be stated that the experts who testified on behalf of the respondent agreed with those produced by the Government as to the falsity of the statements to the effect that 'if a comparatively small quantity of tobacco were swallowed by a person, there would probably be terrible agony followed by death,' and that syphilis and cancer are 'contracted chiefly through smoking pipes which have been in the mouths of others, etc.,' and the 'nicotin-poisoned fathers' may transmit 'symptoms of tobacco poisoning' to their offspring. It was pointed out by one of the experts who testified for the Government that tobacco is an antiseptic and that the germ of syphilis can not live in ordinary room temperature.

"All of this literature is written in the first person and purports to have been written by E. J. Woods, himself. In one of the circulars appears a 'sworn affidavit' by E. J. Woods, who 'states that he personally receives and handles primarily the correspondence of Edward J. Woods, Inc.' The literature is so drawn as to lead the reader to believe that Woods, himself, was formerly a 'heavy smoker' and that he cured himself of the 'tobacco curse.' However, the evidence shows that Woods is a tobacco smoker."

Throughout the advertising matter sent out by the Woods concern the impression is left that Woods himself is the discoverer of these remedies. But as Judge Lamar points out:

"In this connection the evidence shows that Woods, who is not a physician, was for a number of years employed as a nurse in the alcoholic ward of St. Vincent's Hospital, New York, New York; that he does not know whether these remedies are efficacious and that he consulted with Dr. John L. Corish in getting up the formulas. Dr. Corish, a witness for the respondent at the hearing, testified that he furnished the formulas for these medicines."

In this connection it is worth reminding the reader that Corish is the quack whose name was used by the Okola Laboratory fraud that was put out of business by the federal


WOODS' VIGOR TABULES

A Potential, Safe, Guaranteed, Reliable, Highly Satisfying Invigorative Remedy

Woods' Vigor Tabules are for stimulating strength and vigor. They are beneficial in certain weakened conditions of the human system where the results of excesses, in the use of tobacco and alcohol, drug taking or other forms of indiscretion, have manifested themselves. They are recommended particularly for the following disorders:

Loss of appetite, unnatural craving, tremors, enervation, nervousness, sleeplessness, depression of spirits, impaired memory, bad dreams, lacking in natural vigor, morbid thoughts, irritability, worry, fear of something (thought), tired or sleepy feeling when up and down in the, effects of indiscretions, nervous debility, effects of overwork or overstudy, brain-fag, inability to look others in the eyes, lack of courage, bashfulness, weakness of will-power, effects of "late hours" and other dissipations, weak heart, general dullness, tobacco heart, melancholy, nervousness, poisons, dull eyes, anemia, etc., etc., etc. A better stimulant or nerve tonic than alcohol, tobacco or opium without any of the "morning-after-the-night-before" misery. Mail postpaid on receipt of price.

Price of Woods' Vigor Tabules, 50 Cents per Box; Triple Size Box, $1.00, Postpaid

In addition to a cure for the drink habit and tobacco habit Woods also has a "weak men cure" as a side-line. Here is a reproduction greatly reduced of an advertising leaflet enclosed with the tobacco cure material.

authorities in February, 1914. This fraud was exposed in THE JOURNAL, May 9, 1914, and the entire matter is reprinted in the pamphlet "Medical Mail-Order Frauds."

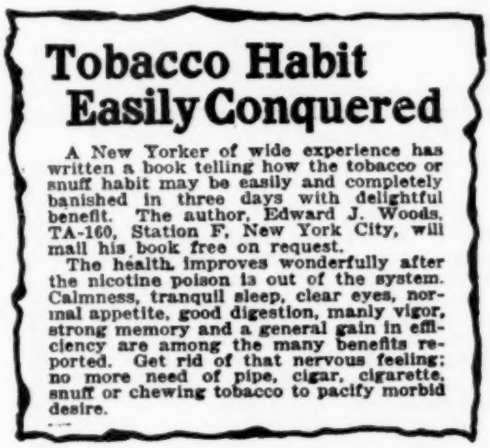
Throughout the circular matter sent out by the Woods concern, it was repeatedly asserted that a person cannot and should not by the exercise of his will power, stop the tobacco habit, and the victim was led to believe that the Woods medicines contain some drug which would inhibit the craving for tobacco. Of course, the treatment contained no drug or combination of drugs which do any such thing. The memorandum continues:

"When five dollars is sent for the 'C Treatment Set' a package containing several boxes of different colored pills and tablets, numbered from 301 to 308 inclusive, and a leaflet containing 'Directions for Taking the Woods C Treatment Set' is sent. This leaflet contains a so-called 'Monograph' signed 'Experienced Physician,' who, the evidence shows, is Dr. Corish, in which the patient is advised that if he can not win with the Woods C Treatment Set, it is his 'own fault' and that 'after the splendid aid given by the Woods C Treatment, any man who says he has not the moral courage to control himself surely ought to hang his head in shame.' The 'Experienced Physician' then prescribes seven 'Health Rules,' and the patient is advised that 'if you find that the cathartic effect is more than you can bear, you can omit one dose of No. 303. . . .'

Following this 'Monograph' appears 'Health Rule No. 8,' which is printed in italics and reads as follows:

"No tobacco of any kind is to be used during the three days that the C Set of Remedies is being taken. Use no tobacco after you have taken the first (No. 301) tablet at 7 p. m. of the day that you begin."

"Before he parts with his money the patient is led to believe that he will secure a treatment which contains some drug which will stop the craving or inhibit the desire for tobacco from the time he begins taking it. He is repeatedly


Tobacco Habit Easily Conquered

A New Yorker of wide experience has written a book telling how the tobacco or snuff habit may be easily and completely banished in three days with delightful benefit. The author, Edward J. Woods, TA-160, Station F, New York City, will mail his book free on request.

The health improves wonderfully after the nicotine poison is out of the system. Calmness, tranquil sleep, clear eyes, normal appetite, good digestion, manly vigor, strong memory and a general gain in efficiency are among the many benefits reported. Get rid of that nervous feeling; no more need of pipe, cigar, cigarette, snuff or chewing tobacco to pacify morbid desire.

A typical Woods advertisement notifying the public that the tobacco habit may be "easily and completely banished in three days."

told that he can not and will not stop the use of tobacco himself. Yet, when he parts with his money and receives the 'treatment' he is for the first time told that he must use no tobacco after he has taken the first tablet. All of the experts who testified at the hearing before this office, including Dr. Corish, who wrote the formulas, agreed that this rule is the most important feature of the 'treatment.' Unless the patient himself stops the use of tobacco, the 'treatment' is worthless. On the other hand, if the habitue will stop the use of tobacco, he can 'cure' himself without the aid of drugs.

"The patient is also advised in the above mentioned leaflet that 'the best time to begin—for most persons—is on a Friday evening.'

"A witness who took the 'treatment' and followed all of the directions, in testifying for the government stated that the only effects he noticed from the 'treatment' was its 'extremely vigorous' cathartic action and a 'marked diuretic action.' He stated that he had 'the desire, the craving' for tobacco from the beginning to the end of the 'treatment,' and 'as the time proceeded it got stronger.' The fact that the 'treatment' is recommended for the week-end would indicate that the promoters realize that, owing to its cathartic effect, it can not be followed in all cases without loss of time, as they so unqualifiedly state in the literature offering the 'treatment' for sale."

The composition of the various pills and tablets in the "C Set" is given in the memorandum as follows:

No. 301: Cascarin 2 gr., Podophyllin ¼ gr.

No. 302: Powdered Extract of Quassia 1/20 gr., Artificial Brown Color 3/100 gr., Milk Sugar 1 gr., Powdered Acacia 1/30 gr., Starch and Oil *q. s.*

No. 303: Aloin ¼ gr., Podophyllin Resin 1/10 gr., Extract of Nux Vomica 1/30 gr., Oleoresin Capsicum 1/16 gr., Croton Oil 1/100 min.

No. 304: Powdered Valerian 1 gr., Powdered Sumbul 1 gr., Gum Asafetida 1 gr.

No. 305: Powdered Extract of Gentian ¼ gr., Iron and Ammonium Citrate ¼ gr.

No. 306: Blaud's Ferrous Carbonate Mass 3 gr., Extract of Nux Vomica 1/60 gr.

No. 307: Methylene Blue ½ gr., Powdered Nutmeg ¼ gr., Extract Kava Kava 1 gr., Oil Sandalwood *q. s.*

No. 308: Purified Willow Charcoal 1 gr., Papain ¼ gr., Oil of Betula 1/25 gr.

Regarding the methylene blue and asafetida tablets, Judge Lamar reports:

"The methylene blue contained in No. 307 of the 'C Set' adds a greenish blue color to the urine. The asafetida in No. 304 makes the excrement very malodorous. The effects mentioned naturally follow, in all cases, the use of those drugs whether or not the patient uses tobacco. It was brought out at the hearing that formerly the patient on being sent the remedy was told to watch for 'favorable signs,' such as bluish green urine and malodorous excrement, which would indicate that the nicotin poison was being eliminated from the system. The 'directions' now being sent out with the 'treatment' contain no admonition to 'watch for favorable signs,' but the ingredients which manufacture those 'signs' are still retained in the 'treatment,' the patient being left to discover the 'signs' himself. The use of these trick ingredients indicates that the originators and promoters of this so-called 'treatment' realize the worthlessness of the drugs employed.

"Counsel for the respondent stated at the hearing that the 'Woods CC Set' for the treatment of tobacco habit secretly was discontinued several months before the citation was issued."

The case against these quacks is summed up in the closing paragraph of the memorandum:

"The evidence shows that none of these so-called 'treatments' contain any drug or combination of drugs which will create an 'abhorrence' or 'associated distaste' for tobacco, and that the principal feature of the 'C' and 'CCC' 'treatments' is the direction to stop the use of tobacco. In effect the patient pays his five dollars to be told to quite tobacco.

"The postmaster at New York, New York, reports that this concern receives on an average of two-hundred letters a day.

"I find that this is a scheme for obtaining money through the mails by means of false and fraudulent pretenses, representations and promises, and therefore recommend that a fraud order be issued against the name set forth in the caption of this memorandum."

Correspondence

"THE NAMING OF ANIMAL PARASITES"

To the Editor:—Dr. A. G. Ellis' criticisms of zoological nomenclature in THE JOURNAL, March 5, deserve a reply defending zoologists and making clear what is being done to stabilize nomenclature.

Zoological classification and zoological nomenclature are necessary parts of zoological study. Only the person who has monographed some group of organisms can have a full appreciation of zoological classification and nomenclature. If one can ever become thoroughly versed in a subject, it is only by actual first hand working in the field covered by that subject. When the average medical man needs zoological knowledge and advice he should consult a zoologist in the same measure that a zoologist will consult a physician on medical matters.

Every one regrets "all the multitudinous names of all the parasites." With so many workers in the field, often wide apart geographically and chronologically, and with scattered literature and changing ideas of classification, it is practically impossible to avoid making synonyms and to assign an organism always to its proper genus and species. With perfect knowledge, if such can ever be attained, one of the "multitudinous names" will be selected as the proper designation of a parasite or other organism and the others relegated to synonymy. The synonyms are not entirely useless, as in looking over the list much of the history of the species is seen.

As for "an international clearing house," there is already in existence an International Code of Zoological Nomenclature which is followed by most zoologists. When there is a disagreement as to the applicability of some of the rules in certain cases there is the International Commission on Zoological Nomenclature to make a decision. Dr. C. W. Stiles of the Public Health Service is secretary of the commission. The membership of the commission is given in *Science* (**52**:603 [Dec. 24] 1920). Mimeographed copies of the International Code may be obtained for a nominal sum from Mr. John Smallwood, 524 Tenth Street, N.W., Washington, D. C.

The way "for bettering present conditions" is to study parasites intensively, peruse literature diligently, apply the rules of the International Code, and abide by the decisions of the International Commission.

M. W. LYON, JR., M.D., South Bend, Ind.

AN ADVENTURE IN ATROPISM

To the Editor:—The present tendency toward the socialization of medicine, as shown by the desire to do things on a wholesale scale, particularly among the schoolchildren of our land, while carrying with it much that is good and desirable, is fraught with certain elements of danger. A mistake made on a single child is bad enough, but a mistake made and realized, there is a chance to correct the error before another patient is treated.

There is on record, for example, the case of a large number of schoolchildren who were given the Schick test by a well-meaning but absent-minded physician who had made up his solution some ten or hundred times stronger than the usual potency. The result was a series of slow healing ulcers with more or less cicatricial contraction of the arms, and a similar number of law suits against the city which had employed him.

Recently the school authorities of a small but enterprising and public-spirited town in western New York wrote me that they were desirous of having a number of their children, whose sight was defective, examined for glasses. The appointment was made and a 2 per cent. solution of homatropin prescribed, 5 drops of which were to be instilled into each eye of each child before they reached my office, about a 40 mile trip on the train from their town.

At 11 o'clock on the appointed day the nurse in charge arrived in Rochester with thirteen children, eight of whom had had their drops and the other five still with active pupils, because, beyond a few drops in the bottle, there had not been enough to go around. She called my attention to the fact that the eight children were exceedingly thirsty and had drunk freely from the train filter on the way down. Examination showed this entire group to be suffering from most of the classical symptoms of atropism as evidenced by their flushed skins, rapid feeble pulses, parched throats and lips, with difficulty in talking, and a constant desire to wet their lips with their tongue. Two children had diarrhea, fortunately under control, and all were more or less dizzy, on standing.

During the progress of the examinations two of the youngsters developed delirium, and saw mice running around the room. Later in the day, when taken out to lunch, they saw "worms" and, according to the nurse, acted like patients with delirium tremens. The five children under the stock office solution of 2 per cent. homatropin showed no toxic symptoms.

I wrote the pharmacist who had dispensed the alleged homatropin, and received this reply:

> As you supposed, the drug dispensed by our pharmacist, a recently engaged college graduate, was atropin. He said that he thought atropin and homatropin were the same thing: in short, that homatropin was another name for atropin. We regret exceedingly that this mishap has occurred, and as the young man has learned his lesson, we trust that it will never occur again.

If there are any conclusions to be drawn from this adventure they are these: 1. Atropin as a drug for children is comparatively harmless, the average dose being $\frac{1}{200}$ grain; while these eight children received 5 drops of a 2 per cent. solution in each eye, or $\frac{1}{5}$ grain in all, about forty times the usual dose. 2. In sending prescriptions for homatropin to any one but one's regular druggist, the "hom" should be emphasized either by underlining, printing in red ink or attention being

called to the fact in a note below that it is the milder cycloplegic that is wanted. 3. In carrying out any public health work, whether it be wholesale tonsils, wholesale refraction or wholesale vaccination, one should make sure that the amount of caution exercised bears a direct relation to the number of cases involved. LEONARD W. JONES, M.D., Rochester, N. Y.

HOOKWORM AND TUBERCULOSIS

To the Editor:—In a recent account of a hookworm survey at Guayaquil, Equador (THE JOURNAL, Dec. 18, 1920, p. 1702), Dr. Royer states that in no case was hookworm found in patients suffering from tuberculosis. The survey included 1,109 cases, with nearly 60 per cent. hookworm infestation. There were forty-six cases of tuberculosis in the series. The suggestion by Dr. Royer that this may be merely a coincidence is confirmed by findings here in Cuba. My records for the last six months show five cases of tuberculosis with tubercle bacilli in the sputum. Four of these, one Haytian and three Jamaican laborers, had hookworm ova in the stool.

N. NEDERGAARD, M.D., D.T.M. (ENG.), Preston, Cuba.
Physician, United Fruit Company Hospital.

DR. MAYO AND THE DRUGLESS HEALER

To the Editor:—From time to time I receive marked newspaper clippings containing the statement:

> The drugless healer is one of the best things that has come into the life of the present.—Charles Mayo, M.D., Rochester, Minn.

Needless to say, I never made such a statement.

CHARLES H. MAYO, M.D., Rochester, Minn.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted on request.

CASTOR OIL IN THE INDUCTION OF LABOR

To the Editor:—In THE JOURNAL, July 3, 1920, Charles B. Reed recommended castor oil for the induction of labor, but does not specify the mode of employment, doses, form of application, time, etc. So far in my obstetric experience, I have employed only quinin, Champetier de Ribes' bag and pituitary extract. I should like to know the technic and use of castor oil. N. V. MONTEJO G., M.D., Campeche, Mexico.

ANSWER.—Castor oil and quinin are prescribed in combination. One ounce of castor oil and 10 grains of quinin are given when it is decided to commence the initiation of labor. One hour later, a second dose of quinin, 10 grains, is given, and this is repeated at the end of the second hour. Thus, one dose of castor oil and three doses of quinin are administered.

WIDELY ADVERTISED "CURE" PROVED UNTRUE

To the Editor:—Is it true that Prince Don Jaime of Spain, who is reported as having been born deaf and dumb, was cured by osteopathic treatment? H. R. C.

ANSWER.—An authoritative statement from abroad is to the effect that whatever treatment may have been administered by the so-called "bone-setter," it has had no effect on Prince Don Jaime's condition.

Housing and Health.—To improve housing conditions is to influence the standards of living favorably. Higher standards of living, in turn, advance public welfare and decrease physical and mental defects and diseases and raise the moral qualities essential for effective citizenship. Poor housing breeds disease and crime; disease and crime lower potential earning capacity, with consequent inability to pay for hygienic surroundings; thus a vicious circle is established.—I. S. Wile, *Am. J. Pub. Health*, April, 1920.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARIZONA: Phoenix, April 5-6. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.
COLORADO: Denver, April 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.
DISTRICT OF COLUMBIA: Washington, April 12. Sec., Dr. Edgar P. Copeland, 1315 Rhode Island Ave., Washington.
HAWAII: Honolulu, April 11. Sec., Dr. Guy C. Milnor, 401 S. Beretania St., Honolulu.
IDAHO: Boise, April 5. Director, Mr. Paul Davis, Boise.
IOWA: Des Moines, April 12-14. Sec., Dr. Guilford H. Sumner, State House, Des Moines.
LOUISIANA: New Orleans, May 3. Sec., Dr. F. H. Hardenstein, 702 Macheca Bldg., New Orleans.
MINNESOTA: Minneapolis, April 5-7. Sec., Dr. Thomas S. McDavitt, Lowry Bldg., St. Paul.
MONTANA: Helena, April 12. Sec., Dr. S. A. Cooney, Power Bldg., Helena.
NEVADA: Carson City, May 2. Sec., Dr. S. L. Lee, Carson City.
NEW MEXICO: Santa Fe, April 11-12. Sec., Dr. R. E. McBride, Las Cruces.
OKLAHOMA: Oklahoma City, April 12-13. Sec., Dr. J. M. Byrum, Shawnee.
PORTO RICO: San Juan, April 5. Sec., Dr. Manuel Quevedo Baez, San Juan.
RHODE ISLAND: Providence, April 7-8. Sec., Dr. Byron U. Richards, State House, Providence.
UTAH: Salt Lake City, April 4-5. Sec., Dr. C. L. Olsen, 932 South 5th East St., Salt Lake City.
WEST VIRGINIA: Charleston, April 13. Health Commissioner, Dr. R. T. Davis, Charleston.

Illinois September Examination

Mr. F. C. Dodds, superintendent of registration, Illinois Department of Registration and Education, reports the written and practical examination held at Chicago, Sept. 20-22, 1920. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 57 candidates examined, 39 passed and 18 failed. Twenty-seven candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Number Licensed
University of Colorado		(1919)	1
Chicago Coll. of Med. and Surg.	(1913) 1, (1915) 1,	(1916) 1,	3
Chicago Hospital College of Medicine		(1918)	2
Chicago Medical School		(1920)	4
Rush Medical College	(1917) 1,	(1920)* 12,	13
Loyola University	(1917) 1, (1918) 1,	(1920)* 1,	3
Northwestern University		(1920)*	1
University of Illinois		(1920)	3
St. Louis University School of Medicine		(1920)	1
Eclectic Medical College		(1920)	1
Ohio State University College of Medicine		(1920)	1
Meharry Medical College	(1917) 1,	(1920) 1,	2
School of Medicine and Pharmacy of Jalisco, Quadalajara	(1915)† 1,	(1916)† 1,	2
Queen's University		(1920)	1
McGill University		(1920)	1

College	FAILED	Year Grad.	Number Licensed
Chicago College of Medicine and Surgery		(1917)	1
Chicago Hospital College of Med.	(1915) 1, (1918) 2,	(1919) 1,	4
Chicago Medical School		(1920)	1
Homeopathic Medical College of Missouri		(1904)	1
Kansas City Medical College		(1897)	1
Meharry Medical College	(1902) 2, (1910) 1, (1913) 3, (1914) 1, (1915) 1,	(1916) 1, (1920) 1,	10

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College of Phys. and Surgs., Los Angeles		(1917)	California
American Medical Missionary College		(1903)	Nebraska
Chicago College of Medicine and Surgery		(1915)	Nebraska
Loyola University	(1918) Missouri,	(1918)	W. Virginia
Rush Medical College		(1913)	Nebraska
University of Illinois		(1916)	Iowa
Drake University College of Medicine		(1909)	Iowa
State University of Iowa College of Medicine		(1916)	Iowa
Hospital College of Medicine, Louisville		(1892)	Indiana
Louisville National Medical College		(1903)	Indiana
University of Louisville		(1919)	Kentucky
Johns Hopkins University		(1918)	Maryland
University of Maryland	(1902) Minnesota, (1904) (1913) Maryland		Maryland
St. Louis University School of Medicine		(1912)	Iowa
Washington University Medical School		(1919)	Missouri
Cornell University		(1908)	New York
Syracuse University College of Medicine		(1917)	New York
Western Reserve University School of Medicine		(1915)	Ohio
Meharry Medical College	(1911) Louisiana, (1915) (1919) Kentucky		Arkansas
Marquette University		(1914)	Wisconsin
Wisconsin College of Phys. and Surgs., Milwaukee		(1906)	Wisconsin
University of Toronto		(1918)	New York

* These candidates received temporary licenses pending completion of their hospital internships.
† Graduation not verified.

Virginia December Examination

Dr. J. W. Preston, secretary, Virginia State Board of Medical Examiners, reports the written examination held at Richmond, Dec. 14-17, 1920. The examination covered 9 subjects and included 90 questions. An average of 75 per cent. was required to pass. Of the eleven candidates examined, 10 passed and 1 failed. Eight candidates, including 1 osteopath, was licensed by reciprocity. Two candidates were licensed on Navy credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Howard University		(1918)	79
Southern College of Medicine and Surgery		(1912)	87
University of Virginia	(1918) 91, 92 (1919) 90, (1920)		92
Medical College of Virginia	(1918) 77, (1920) 84,	85,	88

College	FAILED	Year Grad.	Per Cent.
Medical College of Virginia		(1918)	68

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Louisville		(1915)	Kentucky
Baltimore Medical College		(1907)	W. Virginia
University of Maryland		(1917)	Maryland
University of Michigan Medical School		(1916)	Michigan
Missouri Medical College		(1887)	Oklahoma
University and Bellevue Hospital Medical College		(1917)	New York
Medico-Chirurgical College of Philadelphia		(1914)	Penna.

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Medical College of Virginia		(1917)	U. N. Navy
Jefferson Medical College		(1917)	U. S. Navy

Book Notices

ESSENTIALS OF TROPICAL MEDICINE. By Walter E. Masters, M.D., M.R.C.S., L.R.C.P., Present Medical Officer, Gold Coast, West Africa. Cloth. Price, $11. Pp. 702, with illustrations. New York: William Wood & Co., 1920.

This book is an outline of tropical diseases prepared by the author for his own use. He has endeavored to present all of the different views current at the time the book was prepared. He states the facts and opinions succinctly without attempting to give any personal observations or to discuss them. In presenting treatment, he gives all of the various treatments which have been recommended again without any opinion as to the probable success or failure. On many subjects he is not quite up to date, notably yellow fever, Rocky Mountain spotted fever and skin diseases. The last two chapters are concerned with the general subjects of tropical sanitation and laboratory examinations. These chapters contain practical hints based on the author's own experience. The form of presentation makes the book unnecessarily bulky. The illustrations, most of them original with the author, are exceptionally interesting.

NITROUS OXID-OXYGEN ANALGESIA AND ANAESTHESIA IN NORMAL LABOR AND OPERATIVE OBSTETRICS. F. H. McMechan, M.D., Editor. A Monograph Prepared for the Benefit of All Those Concerned in Safer and More Efficient Obstetrics and Anaesthesia. Leather. Price, $2.50. Pp. 97. Columbus: National Anaesthesia Research Society.

This monograph, "prepared for the benefit of all those concerned in safer and more efficient obstetrics and anesthesia," is the first of a series which the National Anaesthesia Research Society proposes to publish on the application of anesthesia and analgesia to the specialties in the practice of medicine and dentistry. It combines the unified and cooperative scientific researches and clinical results of the foremost obstetricians and anesthetists of America. It consists of well digested information covering an exceptionally complete review of the literature. The scope and manner of presentation are indicated by the chapter headings, which cover the historical evolution; general considerations; relative evalution; circulatory changes; obstetric analgesia; obstetric anesthesia; mother and child; studies of results, and operative obstetrics. Each chapter is a summary of the important conclusions reached in the development of the subject under consideration. Attention is frequently called to certain points in the administration of the anesthetic which may not be appreciated but which may have a decided influence on success or failure. The subject is handled in an authoritative and at the same time practical manner, is free from controversial points, and consists of clearly expressed deductions derived from experience and the literature. It is stated that the monograph "has been undertaken to provide all those interested with an exhaustive survey of what has been and what may be accomplished by nitrous oxid analgesia and anesthesia in normal labor and operative obstetrics. It should be emphasized in this connection that the obstetrician or anesthetist who uses this newer method for the relief of labor pains, without first grounding himself thoroughly in its physiopathology and the technic of administration, is not doing himself, his patients and the method the justice they deserve. In anesthesia, as in all other arts and sciences, 'a little learning is a dangerous thing.' Only those who drink deeply of the inexhaustible spring of knowledge eventually succeed." The two chapters on obstetric analgesia and anesthesia are especially valuable, as the technic of administration is fully considered and the Guedel and McKessen sign charts are included to serve as basic and determining guides. Physicians and anesthetists actively engaged in the practice of obstetrics will find the brochure a valuable addition to their library.

TROPICAL OPHTHALMOLOGY. By Robert Henry Elliot, M.D., B.S., Sc.D., Lecturer in Ophthalmology, London School of Tropical Medicine. Cloth. Price, $12.50. Pp. 525, with 124 illustrations. New York: Oxford University Press, 1920.

It has been the privilege of comparatively few residents of temperate climates to enjoy an extensive professional practice in the tropics, and fewer yet have the courage and persistence to collect the data derived from their observations, and compile them in book form. Colonel Elliot, who, because of his numerous valuable contributions to ophthalmic literature, is known by ophthalmologists the world over, has written this most interesting book on tropical ophthalmology particularly for the surgeon, especially for those just beginning work in the tropics, where there is such an immense field for original research, with abundant clinical material and opportunities waiting on every hand. In a book with such a mission, therefore, the fundamentals of ophthalmology are virtually ignored, and the author has attempted to set forth only such knowledge as has been gained by past workers in tropical lands. Eye diseases common to all climes are briefly mentioned when possessing some conditions in relation to behavior or treatment peculiar to those regions; and the technic of various operations is explained. Although the large majority of American oculists who may read this book will never be called on to enlarge their knowledge on trematodes, cestodes, *Filaria bancrofti, Loa loa,* onchocerciasis, thelaziasis, ancylostomiasis, etc., they nevertheless will find the book one of unusual interest. The author prefaces the book with general information on conditions in tropical countries, the centers of distribution of ophthalmic relief, railway facilities, the poverty and mental attitude of the people, the prevalence of eye diseases, and the like. The effect of exposure of the eyes to the strong light as well as the wind and dust; eye injuries from flying insects, from chemicals, from stings and bites, and the invasion of the eyes by various parasites, are all dealt with in detail. The last section of the book is devoted to the general constitutional diseases having definite relationships to the eye. A carefully selected bibliography accompanies the different sections into which the book is divided. Colonel Elliot is to be congratulated on the successful publication of this pioneer treatise on tropical ophthalmology.

THE HEART AND THE AORTA. Studies in Clinical Radiology. By H. Vaquez, Professeur agrégé à la Faculté de Médecine de Paris, and E. Bordet, Chef de Laboratoire adjoint à la Faculté de Médecine de Paris. Translated from the Second French Edition by James A. Honeij, M.D., and John Macy, M.A. Cloth. Price, $6. Pp. 256, with 181 illustrations. New Haven: Yale University Press, 1920.

This work received favorable comment in our columns when it appeared in French. It is a pleasure to add that the translation has been well done and the many illustrations well reproduced, though one of them is upside down. While there is no essential difference between the second and third French editions, it is to be regretted that the translation does not represent the latest edition, as this translation was going through the press when the third edition appeared in France.

Medicolegal

Good Indictments Under Harrison Narcotic Law

(Dean v. United States (U. S.), 266 Fed. R. 694, and 695, Two Cases)

The United States Circuit Court of Appeals, Ninth Circuit, affirms judgments of conviction in two cases against defendant Dean. The court says that in the first case the indictment charged that the defendant did knowingly, etc., "purchase, sell, dispense and distribute cocain in and from a certain tin box, which said tin box was not then and there the original stamped package containing said cocain. That is to say, the said defendant" did have in his possession the said tin box containing cocain, consisting of about one-half ounce, and that the "said tin box then and there containing said cocaine did not then and there bear and have affixed thereon appropriate tax paid stamps as required by the act of Congress approved Dec. 17, 1914, known as the Harrison Narcotic Law." The defendant contended that no offense against the act as amended by act of Feb. 24, 1919, was involved in the charge that the defendant had cocain in his possession, and that a violation of the statute can be committed only by purchasing, dispensing and distributing narcotics from packages which have not affixed thereon appropriate tax paid stamps. But the court finds no merit in the objection to the indictment. It may be conceded that the purpose of the statute is to prohibit the purchase, sale and distribution of narcotics; but it is also clear that it provides that prima facie proof is made of the violation of the statute by evidence that the accused had the possession of prohibited narcotics to which are not affixed appropriate tax paid stamps. In this respect the offense is not dissimilar to some other offenses against the United States, such as the offense of having in possession dies adaptable to counterfeiting, or having possession of imported opium. Nor was there merit in the contention that the term "original stamped package," as used in the act of 1919, is meaningless. Its meaning is made sufficiently clear by the terms of the act and the amendment thereto.

In the other case, the indictment charged that the defendant did knowingly, etc., "sell, dispense and distribute morphin and cocain in six paper bags, ten small cardboard boxes, one small celluloid box and one metal box, which said bags and boxes and either and each of them were not then and there the original stamped packages containing said morphin and said cocain." It was contended that to charge that the receptacles were not the "original stamped package" was not equivalent to charging that there was failure to pay the special tax required, that the words might mean many things, such as a reference to the label or brand of the package, or the date of purchase stamped on the receptacle, and that they failed to apprise the accused of the crime charged. But when the words were construed with reference to context and the other provisions of the law, there could be no question of their meaning. If they seemed obscure or indefinite to the defendant, he had his remedy in the court below by demanding a bill of particulars. Having gone to trial on the indictment as sufficiently charging an offense, he could not in this court take advantage of any defect or imperfection in matter of form only which did not tend to his prejudice.

Conclusiveness of Records of Proceedings to Revoke Licenses

(Jordan v. Alderson et al. (Calif.), 192 Pac. R. 170)

The District Court of Appeal of California, First District, Division 1, in affirming a judgment refusing, on certiorari as it is called, to annul an order of the state board of medical examiners revoking the petitioner's license to practice medicine in the state of California, says that the complaint charged the petitioner with unprofessional conduct under Subdivision 1 of Section 14 of the medical practice act, by procuring a criminal abortion on a pregnant woman. The petitioner contended that the record of the proceedings before the board showed such an absence of proper evidence as to amount to a lack of jurisdiction in the board to make the order under review. But this court considers that the record showed a sufficiency of proper evidence to prove that the woman operated on was pregnant at the time of the offense charged. She herself so testified, and on oath reaffirmed the truth of a full statement giving circumstances, conditions and symptoms, signed by her at the emergency hospital shortly after the offense. Also, expert medical testimony given by a physician who had made an examination of the patient shortly after the offense was proper evidence of a convincing character. There was a conflict in the testimony of the expert witnesses, which is quite usual, and the petitioner complained that his cross-examination of the woman at the hearing on her belief as to her previous pregnancy was erroneously limited by the board. But it is well settled that on this proceeding the court had nothing to do with the conflict of testimony nor with irregular or erroneous rulings on admission of evidence where the record showed the jurisdictional requirements with respect to these matters to have been fulfilled. The record also showed by the same testimony, and by proper and legal evidence, the performance of the illegal operation by the petitioner. The testimony and denials of the petitioner, who was a witness for himself, only created a conflict in the evidence before the board, with which the court had nothing to do on the hearing of the writ of certiorari. The fact that the act complained of was called a criminal abortion did not make the proceedings before the board a criminal proceeding to the extent of making applicable to the hearing the provisions of the penal code with respect to the evidence necessary to convict of a crime. The trial court determined in favor of the correctness of the record of the proceedings before the board returned into court under the writ. If the matter were open to the district court of appeals it could do no more than refer to the oft-repeated rule that the determination of the trial court on conflicting evidence will not be interfered with by the appellate court. However, not only the trial court but also the board of medical examiners determined the existence of these jurisdictional facts. It not only determined these facts impliedly, by making its order revoking the license, but again expressly, on a motion to reconsider made by the petitioner on this ground after unfavorable action had been taken. Its record showing this fact affirmatively made unnecessary the taking of testimony on the point. The record of the proceedings before the board showed that the board did not act without jurisdiction in making the order complained of, and the court properly refused to annul the order on the hearing of the writ.

The district court of appeal denied the petitioner a rehearing, and the Supreme Court of California afterward denied him a hearing.

Society Proceedings

COMING MEETINGS

Alabama, Medical Association of the State of, Montgomery, April 19-21.
American Association of Anatomists, Philadelphia, March 24-26.
American Assn. of Genito-Urinary Surgeons, Richmond, Va., May 2-3.
American Assn. of Pathologists and Bacteriol., Cleveland, March 25-26.
American Association of Physicians, Atlantic City, May 10-11.
American Society for Clinical Investigation, Atlantic City, May 9.
Arizona Medical Association, Tucson, April 15-16.
Arkansas Medical Society, Hot Springs, May 3-5.
California, Medical Society of the State of, San Diego, May 10-12.
Florida Medical Association, Pensacola, May 10-11.
Georgia, Medical Association of, Rome, May 4.
Iowa State Medical Society, Des Moines, May 11-13.
Kansas Medical Society, Wichita, April 26-28.
Louisiana State Medical Society, New Orleans, April 19-21.
Maryland, Medical and Chirurgical Faculty of, Baltimore, April 26-28.
Mississippi State Medical Association, Laurel, May 10-11.
Nebraska State Medical Association, Lincoln, May 9-12.
New Mexico Medical Society, Albuquerque, April 28-30.
New York, Medical Society of the State of, Brooklyn, May 3.
North Carolina, Medical Society of the State of, Pinehurst, April 26-28.
Ohio State Medical Association, Columbus, May 3-5.
South Carolina Medical Association, Columbia, April 19-20.
Tennessee State Medical Association, Nashville, April 12-14.
Texas, State Medical Association of, Dallas, May 10-12.
Western Electro-Therapeutic Association, Kansas City, Mo., April 21-23.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

February, 1921, **161,** No. 2

*Acute Psychoses Arising During Course of Heart Disease. D. Riesman, Philadelphia.—p. 157.
*Whooping Cough Contracted at Time of Birth; Report of Two Cases. J. Phillips, Cleveland.—p. 163.
*Experimental Studies in Diabetes: II. Internal Pancreatic Function in Relation to Body Mass and Metabolism. III. Effects of Exercise. F. M. Allen and M. B. Wishart, New York.—p. 165.
*Retention of Protein During Diet Reduction to Relieve Glycosuria in Diabetes Mellitus. R. L. Fenlon, Iowa City.—p. 193.
*Bacteriology of Fasting Stomach and Duodenum: Experimental Study Based on Findings in Thirty Dogs. P. H. Poppens, Chicago.—p. 203.
*Leukemia: Type Diagnosis by Oxydase Method of Blood Staining. G. L. Lambright, Cleveland.—p. 209.
*Curability of Tuberculous Meningitis. F. Harbitz, Christiana, Norway.—p. 212.
*Classification of Goiter: Analysis of One Hundred Cases. C. Williams, Richmond, Va.—p. 223.
Multiple Fluid Collections in Chest in Course of Therapeutic Pneumothorax. B. P. Stivelman and J. Rosenblatt, Bedford Hills, N. Y.—p. 229.
Nephrolithotomy in Horseshoe Kidney. K. P. A. Taylor, Philadelphia.—p. 238.
Infection of Kidneys Following Prostatectomy. J. W. Marchildon, St. Louis.—p. 243.
*Urinary Antisepsis: Study of Antiseptic Properties and Renal Excretion of 204 Anilin Dyes. E. G. Davis, Omaha, Neb.—p. 251.
Fourth Venereal Disease, Ulcerative and Gangrenous Balanoposthitis: Case Report. W. M. Donovan, Madison, Wis.—p. 267.
Amnesia After Childbirth. C. W. Burr, Philadelphia.—p. 271.

Acute Psychoses in Heart Disease.—Riesman discusses hallucinations of sight and sound, more rarely of smell; a state of confusion; excitation with decided disorientation; acute mania, delusional states and a state of mental excitement or delirium which subsides during the apneic period. The causes of the cardiogenic psychoses are also considered.

Whooping Cough Contracted at Birth.—The infection in each of the cases cited by Phillips was from the obstetric nurse, who was in the first week of her attack of whooping cough. Her cough was not of sufficient severity that she considered it necessary to report it to the obstetrician. In the first case reported she assisted, at the time of labor the regular nurse for twenty-four hours, and then went to the second case, this baby being born three days later. Although her cough grew steadily worse, its nature was unsuspected.

Diet and Exercise in Diabetes.—Dependence for the actual control of the diabetes is placed by Allen and Wishart on diet, and exercise is limited to the requirements of comfort and hygiene. The thorough dietetic treatment thus involves two changes from former practice: on the one hand, heavy exercise, as advocated by the earlier clinicians for burning up surplus sugar, is discouraged; on the other hand, the hygienic benefits of lighter exercise are made available to many patients to whom exercise was formerly forbidden.

Retention of Protein in Diabetic Diet.—This paper is based on forty cases treated according to the method of protein retention in the diet previously described by Fenlon and abstracted in THE JOURNAL, Feb. 28, 1920, p. 627.

Bacteriology of Fasting Stomach and Duodenum.—The stomachs and duodenums of normal fasting dogs were examined bacteriologically by Poppens. *Bacillus coli* was much more frequently found in the duodenum than in the stomach. Nonhemolytic streptococci were rarely found in either stomach or duodenum and hemolytic streptococci not at all. Staphylococci were found in eleven of fifteen stomachs and in but three of fifteen duodenums.

Type Diagnosis in Leukemia.—In a blood examination of leukemia Lambright claims the distinction between the large lymphocytes and myelocytes is of greatest importance. In order to do this the best plan is to stain all blood smears from cases of leukemia by the oxydase method. In the use of the oxydase method, alpha-napthol and dimethylpara-phenylendiamin are brought together in the presence of an oxidizing agent which is present in the leukocytes. An alkaline medium is required. When this is done a rapid precipitation of indophenol blue occurs which produces blue granular staining of their protoplasm. The reaction is given by neutrophil, eosinophil and basophil leukocytes and by myelocytes in bone marrow and leukemic blood. The reaction is not given by lymphocytes nor red blood cells. The method is described in detail and summarized blood findings are given which illustrate a possible error in failure to recognize myelocytes by simple method of staining.

Curability of Tuberculous Meningitis.—From the results of his observations Harbitz concludes that tuberculous meningitis may heal, and even in cases in which rather extensive lesions with exudate and tubercle formation have developed. This curable form of meningitis has occurred largely in persons who have suffered from chronic and relatively benign forms of tuberculosis. It is probable, however, that a more important factor is increased resistance on the part of the body, which bears some relation to the age of the patient. It is interesting to note that while about 60 per cent. of all cases of tuberculous meningitis occur in the first two years of life and quite regularly result in death, the cases with recovery have occurred in older children and in adults.

Classification of Goiter.—Group 1 of Williams' classification contains the simple goiters; Group 2, the cases of hyperthyroidism; Group 3, the exophthalmic goiters.

Antiseptic Property of Anilin Dyes.—Of 204 anilin dyes investigated by Davis, sixty-one were found to possess antiseptic properties in agar, and twenty-eight of these were efficient as antiseptics when added to voided urine. Selective action against various organisms was exhibited by forty-four dyes; in every case the colon bacillus proving more resistant than the staphylococci. There were only twenty-four dyes which inhibited the colon bacillus in urine in a dilution of 1:1,000. There was almost no exception to the rule that antiseptic action was exhibited in higher dilution in alkaline urine than in acid urine. Attention is, therefore, called to the fact that these dyes are most efficient in urine of a reaction which renders hexamethylenamin inert. Dyes of the triphenylmethane, xanthone, acridin and azin groups (particularly the latter) give most promise of value.

American Journal of Ophthalmology, Chicago

February, 1921, **4,** No. 2

*Effects of Carbon Monoxid on Eye. W. H. Wilmer, Washington, D. C.—p. 73.
Epibular Carcinoma Nine Years After Removal of Papilloma of Corneoscleral Margin; (2) Small, Spindle Celled Hemangiosarcoma of Eyelid of Child Aged Five Months, Excision Followed by Radium Treatment; (3) Pathologic Histology of a Concussioned Eye Following Gun-Shot Wound of Orbit. G. E. DeSchweinitz, Philadelphia.—p. 91.
Primary Epibular Carcinoma. F. P. Calhoun, Atlanta, Ga.—p. 101.
Thermophore Studies in Glaucoma. W. E. Shahan and L. Post, St. Louis.—p. 109.
*Visual Fatigue. E. Jackson, Denver.—p. 119.

Effects of Carbon Monoxid on Eye.—Through its effect on the sensitive fabric of the central nervous system, Wilmer says, carbon monoxid causes ocular paralyses, hemianopsias, disturbances of normal pupillary reactions, optic neuritis and optic atrophy. Like pure asphyxiation, it is the source of great ocular congestion, and in this way it causes subconjunctival and retinal hemorrhages; while in the milder cases of carbon monoxid poisoning congestion of the respective cerebral centers causes hallucinations of vision, hearing and touch. In one case reported by Wilmer an optic neuritis was due entirely to carbon monoxid poisoning. In the second case, carbon monoxid was the probable cause of optic atrophy by reason of the very clear history of ocular and other disturbances that followed each exposure to its fumes, and the exclusion of all other toxic sources. The treatment seems to resolve itself into remedies suggested by the symptoms, prophylaxis, hygiene and, Wilmer says, the legislation that should follow the proper education of the public in regard to the insidious toxicity of this "Frankenstein" of advanced civilization.

Visual Fatigue.—Some analysis of the different forms of visual fatigue, and attempt to localize the essential change that gives rise to fatigue, and a recognition of the extremely important part that efforts of coordination play in producing fatigue. Jackson believes ought to be useful in giving a better

conception of a condition that passes easily from physiologic to pathologic significance. It should, he says, be borne in mind that normal visual fatigue rarely rises into consciousness. Only when the organism in response to long continued or repeated excessive fatigue has developed a method of translating this into discomfort or pain does it develop into symptoms.

Archives of Neurology and Psychiatry, Chicago

February, 1921, **5**, No. 2

*Epidemic (Lethargic) Encephalitis. Cultural and Experimental Studies. Preliminary Communication. W. Thalhimer, Milwaukee.—p. 113.
*Juvenile Tabes. H. L. Parker, Rochester, Minn.—p. 121.
*Interpretation of "Paretic Curve" in Lange's Colloidal Gold Test. L. J. Thompson, Boston.—p. 131.
Degeneration Granules in Brain Cells in Epidemic Encephalitis. H. E. Meleney, New York.—p. 146.
*Psychiatric Features of So-Called Lethargic Encephalitis. Case Reports and a Review of Literature. B. L. Jones, Detroit, and T. Raphael, New York.—p. 150.
Case of Alternating Hemiplegia (Millard-Gubler); Paths of Pupillo-Dilator and Vestibulo-Ocular Fibers in Brain Stem. A. Lutz, Havana, Cuba.—p. 166.
Endocrine Stimulation as Affecting Dream Content. C. S. Finley, New York.—p. 177.

Epidemic Lethargic Encephalitis Virus.—Thalhimer presents evidence which he believes to be confirmatory of the results of Loewe and Strauss with respect to the filtrability of the virus obtained from cases of epidemic encephalitis and the specific nature of the minute filtrable organism cultivated with special methods by these investigators. Thus investigation is based on the central nervous system obtained from four cases of epidemic encephalitis, two of the fulminating type, one with marked myoclonus and one showing the usual form of lethargy, and the spinal fluid from one of the patients with a fatal, fulminating case of epidemic encephalitis and from one patient convalescing from epidemic encephalitis of several months' duration, who had manifested marked lethargy and at the time of lumbar puncture still had headache, nausea, vomiting and a slow pulse. An extremely minute filtrable micro-organism, successfully cultivated in ascitic fluid tissue medium from the brain material and spinal fluid obtained from these patients with epidemic encephalitis, is believed to be identical with the micro-organism that has been cultivated and reported by Loewe and Strauss. The investigations strongly indicate that epidemic encephalitis is caused by a filtrable virus.

Juvenile Tabes.—Parker reviews the literature and gives a summary of seven cases. In all seven cases Westphal's sign was present, in six some degree of diminution of sensibility was found, in four the pupils were immobile, in three there were noted Argyll Robertson pupils, optic atrophy, crises, lightning pains, incoordination, signs of congenital syphilis, or syphilis outside the central nervous system, and hypotonia, and in two there was incontinence of urine. In one only was ataxia present. The serum Wassermann test was triple positive in all but one case. In six cases a spinal fluid examination was made. In half that number the Wassermann test was negative. One of three cases in which the spinal fluid Wassermann test was negative had a cell count of thirty-six. A colloidal gold test was performed once only, and the result was a "syphilitic curve." The patient who gave a negative serum Wassermann reaction also gave a total inhibition spinal fluid Wassermann reaction. Parker directs attention to the insidious onset, the lengthy and even latent course of the disease, during which time no subjective complaint may be made, as being in contrast to the frequent optic and total blindness that may also occur. The frequency of incontinence of urine, the relative rarity of such striking phenomena as ataxia, girdle sensations and lightning pain, and finally the frequent paretic termination, are features that stamp juvenile tabes with a distinctive mark and distinguish it from the adult type.

Value of Paretic Curve in Colloidal Gold Test.—About 8,400 colloidal gold tests have been made in the Massachusetts State Psychiatric Institute on about 7,100 different cerebrospinal fluids. Of this number, 677 fluids gave paretic curves, and these constitute the basis for Thompson's study. His findings lead him to conclude that a paretic curve points toward parenchymatous involvement of the brain, while the milder gold curves are obtained in meningitis, vascular disease and other conditions. The paretic curve is not only of diagnostic value, but also of prognostic value.

Psychiatric Features of Lethargic Encephalitis.—Jones and Raphael maintain that the psychiatric phase of epidemic encephalitis has not received the same study and attention as has the neurologic aspect. Looking at the disease from the psychiatric aspect, there seem to be two stages—the irritative stage in which the mental picture is not unlike that of other noninfectious psychoses, and the period of "low grade" stupor, lethargy or, better still, the substuporous period. The former may be marked by euphoria, hypomania, depression, hallucinations, paranoid stages, or even the Korsakoff syndrome, and frequently there are features that simulate those of severe hysterical excitement. The latter is rather an extreme apathy from which the patient may be roused; there is, as it were, a paralysis of the emotional field, frequently accompanied by masklike or parkinsonian facies. This apathy or stupor in some cases amount almost to a catalepsy, but it should be remembered that it is possible, except in the terminal stage, to rouse the patient. The keynote is that the mental condition is variable, this condition being an infectious tonic one, the whole dominated at some time by an apathy or substupor in which the personality is fairly well preserved but blurred by torpor. Four cases are reported. The disease can be diagnosed from the psychiatric picture; the substuporous stage, however, is strongly suggestive of the disorder, and when found in conjunction with spasmodic twitchings, lost knee reflexes, bladder disturbances, cranial nerve palsies and other symptoms is almost if not truly diagnostic.

Canadian Medical Association Journal, Toronto

February, 1921, **11**, No. 2

Treatment of Acute Empyema. A. T. Bazin, Montreal.—p. 89.
Traumatic Abdomen. R. F. Webb, Grand Rapids, Mich.—p. 95.
Acute Abdomen Following Abdominal Operation. G. E. Seldon, Vancouver, B. C.—p. 97.
Treatment of Diffuse Suppurative Peritonitis. J. S. McEachern, Calgary, Alberta.—p. 100.
Diverticulitis of Large Bowel. J. C. Masson, Rochester, Minn.—p. 106.
Treacherous Symptoms Caused by Appendix in Pelvis. W. A. Lewis, Barrie, Ontario.—p. 112.
Bright's Disease in Practice. H. B. Anderson, R. W. Mann and N. C. Sharpe, Toronto, Ontario.—p. 114.
Esophageal Strictures. D. W. Graham, Swift Current, Saskatchewan.—p. 120.
Prevalence of Malnutrition in Public School Children of Toronto. A. Brown and G. A. Davis.—p. 124.
Case of Diphtheritic Ulceration of Skin. H. A. Dixon, Toronto.—p. 127.
Observations from Dermatologic Clinic of Department of Soldiers' Civil Re-establishment of Canada, Toronto Branch. D. K. Smith, Toronto.—p. 128.
Primary and Secondary Nitrous Oxid Saturation from Relaxation and as Test of Patient's Capacity for Operation. E. I. McKesson, Toledo, Ohio.—p. 130.
*An Unusual Abdominal Condition Complicating Hour-Glass Stomach. W. A. Lincoln, Calgary, Alberta.—p. 137.

Hernia of Stomach, Transverse Colon and Small Intestine.—In the case cited by Lincoln the stomach and transverse colon had dropped, and the whole small intestine had herniated through the transverse mesocolon into the lesser sac and again through the gastrohepatic omentum, so that the stomach and transverse colon were pushed down into the pelvis and to the back, the small intestines filling the central and upper portions of the abdomen. These were replaced and an anastomosis made between the proximal pouch of the stomach and the first part of the jejunum near its origin. The opening in the transverse mesocolon was closed and the distal pouch thus obliterating the opening and preventing any possibility of a recurrence. Patient made an uneventful recovery.

Georgia Medical Association Journal, Augusta

February, 1921, **10**, No. 9

Review of Forty-Three Gallbladder Operations with Reference to End Results. R. M. Harbin, Rome.—p. 267.
Some Orthopedic Principles in Treatment of Wounds. F. G. Hodgson, Atlanta.—p. 268.
Is Present Frequent Removal of Tonsils Justifiable? D. Roy, Atlanta.—p. 269.
Gunshot Wounds of Chest and Their Treatment. T. C. Davison, Atlanta.—p. 277.
Complemental Breast Feeding of Babies. W. A. Mulherin, Augusta.—p. 285.
Group Medicine, or a Community of Specialists vs. A Community of Doctors. A. D. Little, Thomasville.—p. 287.
Focal Infection. W. C. Pumpelly, Macon.—p. 288.
Radium; Report of Cases. C. K. Wall, Thomasville.—p. 290.
Hystereotomy Under Local Anesthesia. L. W. Grove, Atlanta.—p. 293.

Johns Hopkins Hospital Bulletin, Baltimore

February, 1921, **32**, No. 360

*Significance of Bacteria Found in Throats of Healthy People. A. L. Bloomfield, Baltimore.—p. 33.
*Experimental Inoculation of Human Throats with Avirulent Diphtheria Bacilli. W. L. Moss; C. G. Guthrie and B. C. Marshall, Baltimore.—p. 37.
Clinical Method for Quantitative Determination of Calcium and Magnesium in Small Amounts of Serum or Plasma. B. Kramer and F. F. Tisdall, Baltimore.—p. 44.
*Surgical Treatment of Rhinophyma; Report of Case. E. M. Hanrahan, Jr., Baltimore.—p. 49.
*Isolation of B. Dysenteriae (Flexner) from Urine of Infant with Dysentery. C. Creighton, C. E. Wagner and W. C. Davison, Baltimore.—p. 50.
*Staining of Phagocytes and Exudates. H. B. Cross, Baltimore.—p. 51.
*Clinical Study of Tuberculous Salpingitis. J. P. Greenberg, Baltimore.—p. 52.

Bacteria in Healthy Throats.—Cultures were made by Bloomfield of the throats of six healthy individuals about once a week over a period of from one to three months. In practically every plate the predominating organisms were gram-negative cocci and nonhemolytic streptococci. Members of the group of hemophilic gram-negative bacilli were found in most of the cultures. Hemolytic streptococci of the typical beta type were not obtained in any case. Pneumococci were occasionally found. Meningococcus was never found. Staphylococci were found occasionally, but never constantly, in the same normal throat. Diphtheroid bacilli, gram-positive cocci of various sorts, and other organisms are not uncommonly present, but only as transients.

Avirulent Diphtheria Bacilli Not Pathogenic.—Certain facts stand out among the results of the experiments reported on by Moss and others. Two points, however, are of great importance. First avirulent diphtheria bacilli are devoid of pathogenic importance for man; and secondly, the carrier of avirulent diphtheria bacilli does not constitute a menace to the health of the community.

Operation for Rhinophyma.—Hanrahan reports a case operated on by Mont. R. Reid. The technic used was similar to that of Seelig in so far as the entire mass, including the skin, was excised, but differed in that a Thiersch graft taken from the thigh was used to cover the denuded surface.

Dysentery Bacillus in Urine of Infant.—There were no vaginitis, pyelitis, cystitis or other urinary complication in this case. The organism was discovered as the result of routine cultures on the sixteenth and nineteenth days. Stool cultures on admission and on the three following days, as well as three weeks later, were negative for *B. dysenteriae*.

Staining of Phagocytes.—In composition the stain used by Cross is somewhat similar to the one originally employed by Pappenheim for staining plasma cells, but the nuclei and bacteria are more sharply and constantly stained, annoying precipitates are generally absent, while the uniformly shaded cytoplasm makes possible a clear definition of the cell configuration, and permits a rapid and accurate enumeration of even the smaller and most irregular organisms. Preparation of stain: distilled water (neutral), 100 c.c.; glycerin, 20 c.c.; alcohol, 95 per cent., 20 c.c.; phenol, 2 c.c. To this is added: crystal violet, 0.06 gm. and pyronin, 0.2 gm. The flask is agitated to insure complete solution. The stain is not filtered and is ready for immediate use. It may be preserved indefinitely if direct sunlight is avoided and the container is kept tightly closed to prevent evaporation of the alcohol.

Tuberculous Salpingitis.—Greenberg analyzed all the cases of tuberculous salpingitis which have occurred on the gynecologic service of the Johns Hopkins Hospital during the last thirty years, but a clinical study was made of those cases only (200) which showed definitely, on microscopic examination, that tuberculosis was present. This does not give the actual morbidity of the disease; for many patients having tuberculous peritonitis with tubal involvement did not have their tubes removed. There were sixty-seven such patients; twenty-three had tubal tuberculosis. A family history of tuberculosis was reported in 22.5 per cent., while in an additional 2.5 per cent. the consort had active pulmonary tuberculosis. About one fourth of the patients had pulmonary tuberculosis. The correct diagnosis before operation was made in only 13 per cent. of the cases and, in more than half of these, the diagnosis was aided by the presence of ascites. The order of frequency of involvement of the pelvic organs was as follows: Tubes, uterus, ovaries, cervix and vagina. Tuberculosis of these organs was found associated with tubal tuberculosis as follows: Uterus, 72.6 per cent.; ovaries, 33.1 per cent.; cervix, 3.5 per cent., and vagina, 0.5 per cent. In 99 per cent. of the cases both tubes were involved. In 68 per cent. of the cases the peritoneum was involved, and in 3 per cent. the appendix was tuberculous. In 17 per cent., myoma uteri was associated with the tuberculous process. In only 2 per cent. was there an associated involvement of the urinary tract.

Journal of Infectious Diseases, Chicago

February, 1921, **28**, No. 2

*Hemotoxin Production by Streptococcus in Relation to Its Metabolism. M. W. Cook, V. Mix and E. O. Culvyhouse, Berkeley, Calif.—p. 93.
*Hemolytic Streptococci of Appendix Vermiformis. A. Kraft, Chicago.—p. 122.
*Influenza Studies. II. A Search for Obligate Anaerobes in Respiratory Infections. An Anaerobic Micrococcus. I. C. Hall, Chicago.—p. 127.
Gonococcus Types. I. J. Hermanies, Cincinnati.—p. 133.
*Influenza Studies. III. Attempts to Cultivate Filtrable Viruses from Cases of Influenza and Common Colds. S. E. Branham and I. C. Hall, Chicago.—p. 143.
Mercury Compounds in Chemotherapy of Experimental Tuberculosis in Guinea-Pigs. I. Studies on Biochemistry and Chemotherapy of Tuberculosis. XXI. L. M. DeWitt, Chicago.—p. 150.
Effect of Body Cells and Fluids on Certain Dyes. T. D. Beckwith, Berkeley, Calif.—p. 170.
Improved Technic for Micro or Little Plate Method of Counting Bacteria in Milk. W. D. Frost, Madison, Wis.—p. 176.
Study of Thrush Parasite. B. C. Fineman, Minneapolis.—p. 185.

Hemotoxin Production.—This is a study on the hemotoxic and other metabolic properties of a single strain of human *Streptococcus pyogenes* (Holman) grown under two conditions: (1) artificial medium since isolation (laboratory strain); (2) the same passed repeatedly through the pleura of rabbits (passage strain). A summary of the entire study indicates only that hemotoxin production is due to, and controlled by, conditions that influence growth. Therefore, hemotoxin production is an expression of the summation of activities of the organism and is capable of varying with every variation of environment and nutrition.

Hemolytic Streptococci in Appendix.—Kraft endeavored to determine the frequency with which hemolytic streptococci are found in the normal appendix and in acute and chronic appendicitis and, if possible, the rôle they play as a primary etiologic factor in appendicitis. Of 125 appendixes, forty-eight were normal and seventy-seven pathologic. Two strains of hemolytic streptococci were isolated from the forty-eight apparently normal appendixes. They belong to the type *Streptococcus infrequens* (Holman). Four strains of hemolytic streptococci were found in the seventy-seven pathologic appendixes. All belong to the type *Streptococcus infrequens*, except one which belonged to the type *Streptococcus hemolyticus II*. From this it appears that hemolytic streptococci occurred in this series in normal appendixes in 4.17 per cent. and in pathologic appendixes in 5.2 per cent. No hemolytic streptococci were isolated from twenty-five appendixes presenting evidence of chronic inflammation. The instances of acute appendicitis yielding hemolytic streptococci presented either ulcerative or gangrenous appendixes. Other findings were: 108 strains of nonhemolytic colon bacilli, of which forty-five strains were found in forty-eight normal appendixes and sixty-three strains in seventy-seven pathologic appendixes; fifty-one strains of hemolytic colon bacillus, of which nineteen were found in forty-eight normal appendixes; thirty-two strains of *Streptococcus viridans* were isolated from forty-eight normal appendixes. Two probable pneumococcus strains, one case of pinworm, and many large unidentified bacilli, which were, no doubt, nonpathogenic, were the other results. In the normal appendix, hemolytic streptococci, when found, occurred only in small numbers.

Obligate Anaerobes in Respiratory Infections.—Cultures were made by Hall of thirty-three specimens taken from twenty-five persons suffering from inflammatory conditions of the upper respiratory tract, chiefly rhinitis, simple or complicated with pharyngitis, tonsillitis, or bronchitis. Six of the specimens came from patients supposed to have become ill with influenza from four to nine days previously, but there

is unsatisfactory clinical proof of influenza in all these cases. No organisms resembling those described by Tunnicliff were seen in the cultures examined in this series. The results seem more comparable to those recorded by Norton, who failed to find any obligate anaerobes in the cultivation by anaerobic methods of sputum, nasopharyngeal swabs and blood from influenza patients. There is nothing to show that the obligate anaerobic coccus found in one instance was pathogenic.

Filtrable Virus Not Cause of Influenza.—Experiments made by Branham and Hall offer no evidence in support of the theory that the cause of either common colds or influenza is a filtrable virus. In attempting to cultivate filtrable viruses from the nasopharyngeal secretions in colds and influenza, no bodies were found in the "cultures" which could not be found also in those from normal persons, in controls in all simple mediums examined, and on blank slides.

Journal of Nervous and Mental Diseases, New York

February, 1921, **53**, No. 2

Study of Glioma. S. Uzematsu, Hathorne, Mass.—p. 8.
*Epidemic Encephalitis Residual Symptoms Chronicity and Relapsing Tendency. F. A. Ely, Des Moines, Ia.—p. 19.

Epidemic Encephalitis.—Ely claims that in some cases of epidemic encephalitis a distinct relapsing tendency may be observed in which newly localized symptoms may appear, and in which an almost typical recurrence of the symptoms observed at the onset may be produced. Even the most mild attacks of epidemic encephalitis frequently leave the afflicted person incapacitated for many months.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

February, 1921, **17**, No. 1

Influence of Colloids on Action of Noncolloidal Drugs. I. W. S. Van Leeuwen, Leiden.—p. 1.
Effect of Some Antipyretics on Behavior of Rats in Circular Maze. D. I. Macht and W. Bloom, Baltimore.—p. 21.
*Optical Isomers. VII. Hyoscins and Hyocyamins. A. R. Cushny, Edinburgh.—p. 41.
*Astringency and Protein-Precipitation by Masked Tannin Compounds. T. Sollmann, Cleveland.—p. 63.

Hyoscins and Hyoscyamins.—Two hyoscins, each of them racemized in the oscine component, but opposed in the direction of rotation of the tropyl radicle, were examined by Cushny, and it was found that the laevorotary hyoscin is from fifteen to eighteen times as powerful as the dextrorotary in action on the terminations of the nerves in the salivary glands and in other "specific" atropin effects. *D*-hyoscin and *d*-hyoscyamin are more slowly destroyed in the tissues than *l*-hyoscin and *l*-hyoscyamin. The action of the hyoscins on the nerve ends in striated muscle, on unstriated muscle, and on the central nervous system is identical. It is suggested that the "specific" effects of the atropin group arise from the physical properties of some chemical compound formed with an optically active substance in the tissues, while the less specific effects may be explained by the properties of the uncombined alkaloid.

Astringency of Masked Tannin Compounds.—The astringencies of "masked tannin compounds" were compared with each other and with those of tannic acid by Sollmann, under conditions simulating those occurring in the digestive tract. Various criteria of astringency were applied, including a new method employing blood corpuscles. All methods gave fairly concordant results. The simplest, and therefore the most satisfactory, appeared to be the precipitation of protein solutions. This, Sollmann says, in relation to the solubility and taste of the drug, should give a fairly complete picture of its field of usefulness. The tannin-protein compounds, contrary to prevailing opinions, dissolve rather better in artificial acid-gastric juice than in bicarbonate-trypsin solutions. Their solubility is so slow, however, that they could be only slightly astringent in the stomach. Considerable astringency would develop in the duodenum, when the acidity is reduced; and the effects would continue somewhat into the lower intestine, following the cleavage of the undissolved proteinate. Slow solubility in bicarbonate solution is therefore a desideratum if the action is intended to continue beyond the duodenum. As to the tanninacetyl esters, commercial brands are evidently mixtures of varying quality; some specimens apparently containing considerable free tannin. The best specimens, however, appear fairly uniform, and but slightly soluble and astringent in acid solution. Bicarbonate dissolves them, and hydrolyzes them slowly. The astringency goes parallel to the hydrolysis, so that the action would continue for several hours, and could thus extend into the lower intestines. However, Sollmann insists that they do not deserve full confidence until the commercial products are more uniform.

Kentucky Medical Journal, Bowling Green

February, 1921, **19**, No. 2

Year's Development in Pediatrics. H. E. Tuley, Louisville.—p. 32.
*New Occupational Pain; Case of Chorea. J. J. Moren, Louisville.—p. 43.
Foreign Bodies in Eye; Report of Four Cases. A. O. Pfingst, Louisville.—p. 44.
Cesarean Section. C. Skinner, Louisville.—p. 46.
Visceral Reflexes. C. Thompson, Louisville.—p. 53.
Cerebrospinal Meningitis: Recovery. B. F. Underwood, Louisville.—p. 63.
Indications for Removal of Faucial Tonsils. S. S. Watkins, Louisville.—p. 65.
Mackenzie's Method of Clinical Research. F. C. Askenstedt, Louisville.—p. 68.
Life or Death of Medical Societies. W. E. Reynolds, Hopkinsville.—p. 71.

New Occupational Pain from Handling Compressed Air Motor.—Moren relates the case of a man, aged 48, a railroad mechanic who during January, 1920, began to complain of pain in his right elbow; in May the left elbow became involved. He has had all kinds of treatment without relief. He suffers a great deal of pain after he quits work. There is practically no pain on extension. The pain sometimes radiates up and down the arm. No particular portion is affected more than another. Contraction of the muscles by the electric current produces the same pain as on voluntary flexion of the elbow. Physical examination was negative. On making inquiries as to occupation it was found that he was handling a compressed air motor drilling holes in various pieces of machinery. His position in the use of this air motor was one of flexion of the arm, lifting the weight and at the same time holding it in position, and was accompanied by more or less vibration. Rest gave relief.

Missouri State Medical Association Journal, St. Louis

February, 1921, **18**, No. 2

Pathology of Thyroid. G. Ives, St. Louis.—p. 37.
Study of Influenzal Pneumonia by Serial Roentgen-Ray Examination. L. R. Sante, St. Louis.—p. 43.
Ovarian Substance. G. D. Royston, St. Louis.—p. 48.
An Infant Welfare Station in St. Louis in 1906. A. Bleyer, St. Louis.—p. 51.
*Poisoning from Wearing Dyed Shoes. F. Neuhoff, St. Louis.—p. 53.
Fracture of Os Calcis with Dislocation of Astragalus. Report of Cases. G. A. Beedle, Kansas City.—p. 54.

Poisoning from Shoe Dye.—Five, and again three, hours before becoming ill Neuhoff's patient had dyed his shoes while wearing them. The dye was found to contain a large amount of nitrobenzol, an intermediate product formed in the manufacture of anilin from benzene. Taken internally, 7 drops have caused death. It is also poisonous when inhaled or applied to the skin. It is used in the manufacture of explosives and anilin derivatives. Workmen who inhale too much of it, or spill it on themselves, are poisoned by it, death even at times resulting. The symptoms of poisoning come on several hours after the application of the poison to the skin and are favored by perspiration. They are cyanosis, anxiety, vomiting, formication, ringing in the ears, disturbed coordination, low blood pressure. The blood becomes a brownish color. In fatal cases there may be jaundice, convulsions and coma preceding death. The treatment recommended is blood letting, artificial respiration, inhalation of oxygen, and stimulants, but no alcohol.

New Orleans Medical and Surgical Journal

February, 1921, **73**, No. 8

*Tapping of Heart. Y. R. Le Monnier, New Orleans.—p. 303.
*Congenital Malformations of Anus and Rectum; Report of Cases. F. D. Fenner, New York.—p. 305.
Vertigo or Dizziness. S. C. Jamison.—p. 313.
Occipito-Posterior Positions. E. L. King, New Orleans.—p. 316.
Menace to Public Health. O. Dowling.—p. 321.

Tapping of Pericardial Sac.—Following repeated attacks of arthritis, Le Monnier's patient suddenly developed a very acute pericarditis with effusion. After the withdrawal of one ounce of a black bloody fluid, the urgent symptoms of distress disappeared and a very distinct "bruit de cuir neuf" and a rasping sound were heard. The patient recovered.

Congenital Malformation of Rectum.—In one of Fenner's cases the rectum and colon were normal, but in three different places the small intestine exhibited a gap, the free ends of the loop where the hiatus occurred appearing as blind pouches swinging from the mesentery. In a second case the condition was one of imperforate anus, with a fistulous communication between the rectum and the urinary tract. In the third case examination revealed an imperforate anus, but just back of the posterior vaginal commissure a fistulous opening on the perineum permitted the free escape of feces. Palpation and roentgenograms of the bowel indicated that the termination of the rectal pouch was high in the pelvis, but the fistulous tract was wide enough to permit easy evacuation of the bowel.

Southern Medical Journal, Birmingham, Ala.

January, 1921, **14**, No. 1

*Relativities in Medicine. E. H. Cary, Dallas, Tex.—p. 1.
*Problems Raised by Recent Development of Medicine: A Plea for Extensity as Well as Intensity in Our Work. C. L. Minor, Asheville, N. C.—p. 9.
*Thrombosis of Coronary Arteries: Report of Cases. J. E. Paullin, Atlanta, Ga.—p. 16.
Overmedication in Infancy and Childhood. J. D. Love, Jacksonville, Fla.—p. 21.
Roentgenology in South. R. H. Lafferty, Charlotte, N. C.—p. 24.
Relationships in Medical and Public Health Work. H. S. Cumming, Washington, D. C.—p. 26.
Child Welfare: Strategic Point of Attack in Public Health Work. E. A. Hines, Seneca, S. C.—p. 32.
*Newer Phases of Cancer Problem. W. D. Haggard, Nashville, Tenn.—p. 35.
Railway Surgeon and His Job. H. A. Royster, Raleigh, N. C.—p. 41.
*Past, Present and Future of Orthopedic Surgery. W. S. Baer, Baltimore, Md.—p. 42.
Prostatectomy. J. T. Geraghty, Baltimore, Md.—p. 48.
Future Needs of Ophthalmology and Otolaryngology. J. A. Stucky, Lexington, Ky.—p. 52.
Semi-Suspension in Treatment of Tonsil Infections. F. D. Sanger, Baltimore.—p. 54.
Medical Curriculum. G. C. Robinson, Nashville, Tenn.—p. 57.

Relativities in Medicine.—Adverting to the greater hospitalization of a community as a plan which would care for those who need medical attention and in a modest way are able to pay for it, a zoning of districts according to the population, with hospitals built to fit the need of the community, Cary says would be a step in the right direction. These institutions could be built either by the county or the city, or both; or by various organizations interested in the establishment of hospitals. The trustees of such hospitals could organize, each for themselves, a staff quite capable of meeting the needs of the people. A hospital in any community, solvent and well supplied with sufficient means for scientific work, should have a scientific library. A hospital should be the home of the county and district medical society. The big problems affecting public health cannot be accomplished by the state, therefore federal interest in the health and welfare of the people are things much to be desired. When our people reach a point where they will demand a National Department of Health they will get it, but the masses must be further educated. When this is done, we shall become a more efficient people. Centralization of authority is essential for the accomplishment of a great work.

Specialization in Medicine.—Specialization, Minor states, is today an essential means for the division and perfection of labor, for bringing an ever-widening field of knowledge within the grasp of finite minds, and for improving the practice of medicine. It is clear, however, that in it lie the seeds of a disease that will injure it and upset its results unless those who follow it are awake to this and hold it in check by keeping alive an interest in the problems of general medicine and by taking an active part in general as well as in special reading and study. Today each specialty is calling for recognition in the medical curriculum, but colleges have difficulty enough in turning out competent doctors without asking them to turn out finished specialists who can only be developed wisely by the experience of general practice and by the development of a special inclination and skill and by careful postgraduate study for those who feel the call. Each new addition to the curriculum only tends to make medical education, already too complicated, more complex to overburden the student's mind with a mass of various medical knowledge which cannot be absorbed till the basic studies of a medical education have been fully assimilated and taken to heart, even though by cramming creditable examinations may be passed.

Thrombosis of Coronary Arteries.—Early diagnosis is of the greatest importance, in Paullin's opinion. Absolute rest in bed for days and weeks is necessary. The only hope for recovery lies in securing for the infarcted area as rapidly as possible, an adequate supply of blood through its collateral circulation. By administering, intravenously or hypodermically, either strophanthus or digitalis, the heart is helped to establish this collateral circulation. To be of value the remedy must be used early and in sufficient dosage to get a quick effect. Paullin has not seen good result from the use of nitroglycerin or the nitrites. Morphin in sufficient dosage to relieve pain is absolutely necessary.

Cancer Problem.—Of 320 cases of deep-seated malignancies, reported on by Haggard and which were treated by various methods, of those who had recurrences 66 per cent. had only one method of treatment, whereas of those who had the combined method, only 33 per cent. recurred, which seems to justify the extensive use of radiation in connection with surgery. Efficient radiation makes operation more radical and increases the percentage of cures in early as well as advanced cases and delays recurrence in all cases. Radium has done its best work in hopeless inoperable cancer of the cervix and in recurrences after operation. In the operable cases, preoperative radiation and postoperative radiation should be associated with radical operation. Radioactive substances have proven valuable in the superficial epithelioma which can be cured by one application. It is bad surgery to treat a local growth without removal of adjacent lymphatics. Both local and metastatic conditions are most safely handled by operation plus radiation.

Status of Orthopedic Surgery.—Who is to do the reconstruction work? Who is to restore function to the injured joint or bone? Who is to restore these men to their economic value in society? And if they cannot be restored who is to estimate the amount of their disability? The orthopedist, is Baer's answer.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

January, 1921, No. 246

Danger of Coolidge Tube for Screen Work. A. E. Barclay.—p. 225.
Unexpected Solution of a Pelvic Radiograph Problem. N. Macleod.—p. 234.
Roentgen-Ray Motor Ambulance Wagon for Use at Home and in Tropical Countries. J. Cantlie.—p. 236.
Pastilles and Their Color Measurement. H. E. Donnithorne and F. E. Baker.—p. 239.

Journal of Pathology and Bacteriology, Edinburgh

January, 1921, **24**, No. 1

*Enterococcus and Fecal Streptococci; Their Properties and Relations. J. H. Dible.—p. 3.
*Variation in Bacteria in Relation to Agglutination Both by Salts and by Specific Serum. J. A. Arkwright.—p. 36.
*Testing Diphtheria Toxin and Antitoxin by Intracutaneous Injection into Guinea-Pigs. A. T. Glenny and K. Allen.—p. 61.
Normal Bacterial Flora of the Bee. P. B. White.—p. 64.
*Gases in Human Arterial Blood in Certain Pathologic Pulmonary Conditions, and Their Treatment with Oxygen. J. Meakins.—p. 79.
Studies in Diabetic Acidosis. G. B. Calvert, E. B. C. Mayrs and T. H. Milroy.—p. 91.
The Silver Reduction Method for the Demonstration of Connective-Tissue Fibres. J. R. Perdrau.—p. 117.

Enterococcus and Fecal Streptococci.—Dible's paper is based on the study of 152 strains, and deals solely with the bacteriology of the organisms as found in the saprophytic state in the human body. It makes no attempt to deal with them as agents of pathologic processes. Dible's observations lead him to believe that *Streptococcus enteritis* comprises

the large group of true chain forming streptococci of the feces, many of which are undoubtedly surviving salivary types. The *Streptococcus fecalis* of Andrewes and Horder comprises the group of the enterococcus and possibly some other types mentioned. It omits many true enterococci since nonmannite fermenting variants are not recognized. The characters of enterococci and certain other fecal streptococci are described. It would appear that the former comprise a well defined group, worthy of specific rank within the streptococcus genus.

Variation of Bacteria to Agglutination.—Eight out of nine strains of *B. dysenteriae* (Shiga) examined by Arkwright have been made to yield two forms ("S" and "R"), which remain constant in broth when subcultured weekly; they have different cultural characters in broth and on agar, but are identical and resemble the stock culture as regards sugar reactions and the absence of indol production, and of motility. The remaining strain only grew in the "R" form. The "S" form makes a good stable emulsion in salt solution, and in broth cultures causes uniform turbidity. The "R" form agglutinates in 0.85 per cent. solution of sodium chlorid. The "S" form, when agglutinated by specific serum, forms large clumps. The "R" form makes small clumps and the deposit is readily shaken up into a turbid suspension. The two forms differ very decidedly in their agglutinating, antigenic, and absorbing properties with specific serums. The "S" forms obtained from different strains of *B. dysenteriae* (Shiga) resemble each other serologically, but are distinct from all the "R" forms, and the "R" forms of different strains appear to have little relation to any "S" forms, but to be closely related to each other. "S" and "R" forms showing similar properties have been obtained from one strain of *B. dysenteriae* (Flexner-Y). Similar "S" and "R" forms have been obtained from several strains of *B. typhosus*, but the serologic differences between the two forms were less distinct than in the case of *B. dysenteriae*, in the case of one strain of *B. typhosus*, in which specific serum reactions were tested. Forms resembling the "S" and "R" forms as regards cultural characters and "spontaneous" agglutination have also been obtained from cultures of *B. paratyphosus* B, *B. enteritidis* (Gaertner) and other members of the *B. coli-typhosus* group, but the serologic characters have not been examined by means of specially made serums.

Testing Diphtheria Toxin and Antitoxin.—The intracutaneous method of Romer has been adopted by Glenny and Allen for all preliminary determinations of the antitoxic value of diphtheria serums. Their experience has shown that this method is of great practical value and that it deserves wider recognition.

Gases in Arterial Blood.—In four cases of lobar pneumonia the carbon dioxid content of the arterial blood was determined by Meakins and found to vary between 42 and 44 volumes per cent. This comspicuous decrease might be explained by the febrile condition. However, it seems more probable that this decrease is the result of the increased total pulmonary ventilation which has been found to occur in these cases. There would appear to be a striking analogy between the character of respiration in these cases of pneumonia and that found in cases of chronic gas poisoning as exemplified by the case reported.

Journal of Tropical Medicine and Hygiene, London

Feb. 1, 1921, **24**, No. 3

*Mites as Internal Parasites of Man. W. E. C. Dickson.—p. 25.
Suggestions for Further Rsearch in Schistosomiasis. F. Milton.—p. 27.

Mites Found in Urine.—Two cases of infection of the urinary tract by mites are cited by Dickson. The parasites were present in large numbers in very carefully taken catheter specimens of urine. In one case the mite was *Tyroglyphus* (Aleurobius) *farinae* De Geer, found usually in flour, grain, stored foods, etc. Clinically, the case had been diagnosed as chronic Bright's disease and cystitis. The patient got well under proper treatment. The second case was suggestive of lymphadenoma or lymphatic leukemia. Examination of the urine for mites disclosed the *Tarsonemus*, which infests various plants, on which it causes the formation of small galls. This patient became seriously ill, with symptoms of cystitis and pyelitis, and died soon afterward.

Lancet, London

Feb. 12, 1921, **1**, No. 5085

*Seventy-Six Cases of Uterine Fibroids and Chronic Metritis Treated by Roentgen Rays. T. W. Eden and F. L. Provis.—p. 309.
Removal of Appendix in Quiet Period. W. H. Battle.—p. 313.
Quinin Treatment of Malaria. P. Hehir.—p. 317.
*Squint, Mancinism and Tubercle. W. C. Rivers.—p. 319.
*Incidence of Congenital Syphilis Among Newly-Born. S. M. Ross and A. F. Wright.—p. 321.
Case of Myoclonic Encephalitis. J. P. Stewart and E. S. Scott.—p. 323.
Relative Activity of Fat Soluble Accessory Factor in Cod Liver Oil and Butter. S. S. Zilva and M. Miura.—p. 323.

Roentgen-Ray Therapy of Uterine Fibroids.—Eden and Provis are of the opinion that roentgen-ray treatment should be regarded as the method of choice in women over 38 for all uncomplicated cases of severe hemorrhage due to chronic metritis, or other conditions in which no neoplasm is present. These cases yield more readily to the treatment than do fibroid tumors. The presence of inflammatory disease of the tubes and ovaries is a contraindication. Fibroids of the size not exceeding the height of the umbilicus may be treated with roentgen rays if the patient is over 38 years old, if the hemorrhage is of the regular monthly type, and if there is no evidence of inflammatory disease of the tubes and ovaries or of advanced degenerative changes in the tumor. If intercurrent conditions which tend to increase operative risks are present, roentgen-ray treatment should be regarded as the method of choice; in other cases the choice may usually be left to the patient. No case should be submitted to roentgen-ray treatment without a careful gynecologic examination being previously made, to exclude malignant disease, inflammatory complications and degenerative changes in fibroids. The risks of failure with roentgen-ray treatment in suitably selected cases are so small as to be negligible; the roentgen-ray menopause may be attended by more severe flushings than the normal menopause, but in other respects there is no difference between them; there is no tendency to corpulency or to psychologic changes.

Squint, Mancinism and Tubercle.—Rivers discusses further evidence in support of his claims that squint is about three times commoner in consumptives, and probably also in consumptives' parents, than in the nontuberculous; that such squint seems to favor the left eye, and that tuberculous squinters are left-handed, and give a family history of left-handedness oftener than do nonsquinters. Squint is excessive in lung tubercle and in lymphatic gland tubercle, but not in bone and joint tubercle. Squint is excessive among the clinically nontuberculous mothers (at any rate) of nonsquinting consumptives. Left-handedness, or mancinism, occurs in from 2 to 4 per cent. of the general population. Rivers found it in 2.7 per cent. of nonsquinting consumptives. All the left-handers are left-eyed squinters; all the ambidexters are right-eyed. Of sixty nontuberculous squinters, six were left-handed. All the left-handers squinted with the left eye. Two ambidexters had a left divergent sqint. Of the sixty phthisical squinters, twenty-one know of left-handed relatives. Out of sixty nontuberculous squinters, twenty-two know of left-handed relatives. All the left-handed squinters in the phthisical series know of left-handed relatives, and two thirds of the nontuberculous left-handed squinters. Right eye and left eye, the latter kind gives a slightly more frequent family history of mancinism. It is reasonable to conclude, then, that, whether in phthisical or in nontuberculous subjects, left-eyed concomitant strabismus is somewhat associated with mancinism and with a family history of mancinism.

Congenital Syphilis Among Newly Born.—The 300 cases examined by Ross and Wright were entirely unselected, and in no instance had either parent been treated for recognized syphilis. The blood was taken from the placental end of the umbilical cord immediately after it was severed from the infant. Each investigator employed a different method of test. Thus, Ross employed Dean's technic, in which the complement factor is constant with variations in serum, whereas Wright used Harrison's method, in which the serum factor is constant and the dose of complement varies. In 284 cases, or 94.6 per cent., the results of both workers were identical, ten cases, or 3.5 per cent., being definitely positive. In five cases Wright found a trace of complement deviation which was not found by Ross. In five cases there was marked disagreement. The

facts are that 3.5 per cent. specimens of placental blood were found positive by two observers using entirely different methods in different laboratories.

Tubercle, London

February, 1921, **2**, No. 5

*Value of Diagnostic Methods in Pulmonary Tuberculosis of Children. S. H. Stewart.—p. 193.
Case of Perforation of Lung Following Artificial Pneumothorax. B. Hudson.—p. 203.
Coordination of Statistics of Pulmonary Tuberculosis. F. R. Walters.—p. 206.
Employment for Tuberculous Persons in Industrial Settlements. F. J. C. Blackmore.—p. 209.

Diagnosis of Pulmonary Tuberculosis in Children.—The investigation reported on by Stewart was undertaken in 300 children whose ages varied from 5 to 14 years. Of these 223 were considered to be suffering from pulmonary tuberculosis. It is evident that family and personal history lead but a very little way toward a diagnosis. Laboratory investigation is limited to the very few instances in which sputum is available. Of course, if tubercle bacilli can be demonstrated microscopically or by inoculation, the diagnosis can be regarded as final. Other laboratory methods are not established. Physical examination is very valuable but its results are sometimes indefinite both as regards the existence of active disease and very often indefinite as regards the nature of the disease if signs suggesting morbid change are found. Of specific tests, the subcutaneous is inadvisable. The quantitative cutaneous is of great value. Its shortcomings are that it is negative where the resistance is high and also where toxemia is marked. Radioscopic examination would appear unsatisfactory in that its definitely positive assertions lead to such a margin of inaccuracy. It is obvious that no one method can be relied on in making a final diagnosis of pulmonary tuberculosis in children, except, of course, demonstration of tubercle bacilli. Before the disease is localized and its nature and activity established, all the safe approaches may have to be explored, but two combined methods are preeminently reliable, namely, physical examination associated with quantitative cutaneous testing.

South African Medical Record, Cape Town

Jan. 22, 1921, **19**, No. 2

Action of Heart. W. E. Burrows.—p. 22.
Fulguration for Bladder Growths. H. T. Mursell.—p. 25.
*Recurring Dislocation of Shoulder Joint. T. L. Sandes.—p. 27.

Operation for Recurring Dislocation of Shoulder Joint.—The operation performed by Sandes in five cases was devised on the principle of strengthening the suspension of the limb at the site, and by means analogous to those of a normal joint. An anterior incision is made in the deltopectoral sulcus from the clavicle as far down, if necessary, as the insertion of the deltoid. This muscle is reflected, exposing the anterior and lateral aspects of the capsule. With the arm in abduction to relax the deltoid a drill of large size is driven anteroposteriorly through the humerus, medial to the tendon of the biceps, and through or close to the insertion of the subscapularis tendon about the level of the middle of the articular surface of the head. The drill passes backward horizontally, and emerges through the great tuberosity behind. The diameter of this tunnel should be about 1 cm. The capsule of the joint is not opened. A strip of fascia lata is excised about 30 cm. long, and about 4 cm. broad. The excised strip is rolled or folded up into a compact cord, and sewn with a running stitch of linen thread or silk into a firm ligamentum teres. A silver wire with a loop, or a pliant probe, is used to draw a strong linen thread through the tunnel, and this in turn, being fixed to the extremity of the artificial ligament, pulls it anteroposteriorly through the bone. A small incision is made on the upper aspect of the clavicle lateral to the coracoid process, exposing the bone, from which the soft parts are freed. With a curved pair of forceps passed in front of the clavicle and burrowed through the deltoid the posterior extremity of the artificial ligament is pulled up and slung over the clavicle. Both ends are seized in forceps drawn taut (with the arm at an angle of 45 degrees from the side), overlapped and sewn securely together with silk or linen thread. Thus a firm figure-of-8 ligament is made to suspend the humerus through, approximately, its axis of rotation in the movement of abduction to a fixed osseous buttress above. Any looseness of the capsule is repaired by taking in a reef usually in front and below. The arm is well supported in a sling and rested for six weeks.

Annales de Médecine, Paris

1920, **8**, No. 5

*Deposits of Cholesterin. A. Chauffard, G. Laroche and A. Grigaut.—p. 321.
Experimental Concussion of Spinal Cord. G. Roussy, J. Lhermitte and L. Cornil.—p. 335.
*The Urea in Epilepsy. H. Boutter and B. Rodriguez.—p. 354.
*The Effusion with Artificial Pneumothorax. F. Dumarest, F. Parodi and J. Lelong.—p. 367.
*Test for Reaction of Biologic Mediums. J. Blanc and E. Pozerski.—p. 392.

Local Deposits of Cholesterin. — Chauffard and his co-workers present evidence that the normal content of cholesterin in the blood may be increased by abnormal production of cholesterin for which the suprarenals may be responsible, or the hypercholesterinemia may be passive, from retention on account of insufficiency of the liver. Their research has demonstrated that xanthelasma or xanthoma must be regarded as analogous to a tophus in gout, a cholesterin tophus. When the cholesterin is deposited in the eye, we find senile arc of the cornea, or retinitis with white patches or synchysis scintillans. In all persons with a tendency to cholelithiasis, the cholesterin content of the blood is abnormally high, whether there is jaundice or not. In one case a woman with old nephritis and high blood pressure, but no uremia, developed a xanthelasma on the lid, but there was nothing to indicate liver or biliary derangement. The blood however showed a cholesterin content of 3.3 gm. In the pregnant, on account of the excessive production of cholesterin (of ovarian and suprarenal origin), white patches are liable to develop on the retina exactly like those of nephritis and diabetic retinitis. The hypercholesterinemia is the common factor which explains the occurrence of analogous lesions in the retina in the course of such widely different states as Bright's disease, gestation and diabetes. Local causes of sluggish circulation determine the location of the precipitation.

The Urea in Epilepsy.—The research in the eleven cases described failed to show any retention of urea immediately before or after an epileptic seizure. It is evident that the metabolism of proteins plays an insignificant part in the pathogenesis of epileptic seizures.

The Effusion with Artificial Pneumothorax.—This is a clinical and cytologic study of the pleural effusion observed with induced pneumothorax. The cells in the effusion show its nature from the start.

Reaction of Biologic Mediums.—Blanc and Pozerski report experiences with colorimetry as a simple and easy method for determining the acidity or alkalinity of biologic fluids. They explain the principles of the method and its records, and describe the standard indicators which give the best results. They list the findings in blood, urine and gastric juice.

Archives des Maladies du Cœur, etc., Paris

December, 1920, **13**, No. 12

*The Pulse Rate in Nephritis and Arteriosclerosis. W. Janowski.—p. 529.
Pathogenesis of Congenital Heart Disease. C. Laubry and C. Pezzi.—p. 534.

The Pulse Rate in Nephritis and Arteriosclerosis.—Janowski describes his method of estimating the velocity of the pulse by a geometric average. The coefficient thus derived has diagnostic and prognostic value, he explains.

Archives Médicales Belges, Liége

November, 1920, **73**, No. 11

*Jules Bordet. E. Renaux.—p. 899.
Sex Gland Implantation. G. Frank Lydston (Chicago).—p. 909.
*Lethargic Encephalitis. Rorive.—p. 916.

Bordet.—Renaux reviews Bordet's scientific work, especially the complement fixation test, and its effect on the medical sciences. The Nobel prize in medicine was recently conferred on him.

Epidemic Encephalitis.—Rorive outlines the present status and differential diagnosis of this disease, saying that a sporadic case was published at Paris in 1904 by Achard.

Bulletin de l'Académie de Médecine, Paris

Jan. 25, 1921, **85**, No. 4

*Vaccination Against Typhoid. H. Vincent.—p. 123.
*Ileus in Lethargic Encephalitis. P. Mauclaire.—p. 134.
*Energy-Generating Drugs. G. Bardet.—p. 136.
*Acidosis in Diabetes. H. Labbé.—p. 139.
*The Semicircular Canals. A. Broca.—p. 141.

Vaccination Against Typhoid.—Vincent relates a number of instances in which the civilian population of villages and towns have been vaccinated against typhoid during and since the war. He quotes statistics from Spain where Peset vaccinated 21,000 of the inhabitants of Seville in 1918, and Arnal in a small town vaccinated 700 although there was no typhoid in the place at the time. Other Spanish physicians vaccinated large numbers of persons at Barcelona and elsewhere, and Belgium has an especially fine record of civilian populations vaccinated. Vincent relates a number of instances in which the nonvaccinated persons in a family contracted typhoid while all the others escaped. He states that children bear the vaccination better than adults.

Ileus in Epidemic Encephalitis.—In the case described by Mauclaire the extreme tympanism and other signs of ileus were explained by the course of the case, showing symptoms of epidemic encephalitis. The occlusion was evidently of spastic origin, from traumatic injury of certain parts of the intestine from the incessant contractions of the diaphragm and the muscles of the abdominal wall. In several cases on record the mistake was made of operating, instead of trying to combat the spasm.

Energy-Generating Drugs.—Bardet explains that a certain number of substances display an action which is in the nature of generation of energy, not merely stimulating the energy of the subject by purely chemical action. As an example of a substance of the kind he mentions hexamethylenamin, which, he says parenthetically, was introduced into medicine by Trillat and himself. This induces physiochemical changes, in addition to its chemotaxic action. The enormous effects produced by imponderable quantities of toxins and various viruses cannot be explained by the assumption of pure chemotaxis.

Acidosis in Diabetes.—Labbé has confirmed by recent research, he says, that beta-oxybutyric acid is the substance that generates the acetone bodies. This shows the difference between the acidosis of normal fasting and the diabetic acidosis, but the two may be combined. Fasting, which creates acidosis in the normal, reduces it in the diabetic

The Semicircular Canals.—Broca's research has confirmed the peculiar advantages of the somewhat slanting arrangement of the semicircular canals. In case of injury of either the horizontal or vertical system, by bending the head a little the other system can accomplish its work.

Bulletin Médical, Paris

Jan. 8, 1921, **35**, No. 2

*Convergent Strabismus. R. Onfray.—p. 19.
Open Air Schools in Cities. J. Génévrier.—p. 20.

Convergent Strabismus.—Onfray enumerates the reasons for treatment of convergent strabismus by glasses at the age of 3; functional exercises at 8, and surgical reenforcement of the abductors at 10 if correction is not realized before.

Bulletins de la Société Médicale des Hôpitaux, Paris

Dec. 31, 1920, **44**, No. 41

Epidemic Encephalitis. Lemierre and others.—pp. 1628, 1633 and 1637.
Improved Stethoscope. C. Lian.—p. 1639.
Phono-Sphygmometer. C. Lian.—p. 1643.
*Tuberculosis in Infant. L. Bernard and R. Debré.—p. 1658.
*Ulcer of Second Portion of Duodenum. G. Parturier and J. Aimard.—p. 1666.
Myoclonia with Mitral Insufficiency. Halbron and Joltrois.—p. 1671.
*Serotherapy in Tetanus. G. Etienne and J. Benech.—p. 1674.
*Negative Wassermann Reactions. M. Pinard.—p. 1682.
*Residual Nitrogen. F. Rathery and F. Bordet.—p. 1683.
*Fluid in Fasting Stomach. III. G. Hayem.—p. 1686.
*Bubonic Plague in Paris. L. Guinon and others.—pp. 1723, 1724, 1730, 1734, 1739 and 1756.

Tuberculosis in Infant.—Bernard and Debré report an instructive case in an infant 1½ months old, removed from its tuberculous mother at once, when it soon threw off the tuberculosis completely. The thriving of the child after this clinical, radiologic and biologic confirmation of tuberculosis testifies anew to the importance of prompt isolation.

Ulcer of Second Portion of Duodenum.—Parturier and Aimard found ptosis of the stomach in 80 per cent. of their eighteen cases and in 50 per cent. the duodenum sagged very low. The pain was not influenced by inspiration, but there was tenderness at a point about the center of a line drawn from the tenth rib to a point on the center of a line joining the tips of the iliac crests. There was also a tender point in the left side of the neck. The pain was relieved by atropin rather than by opium. The symptoms are liable to be mistaken for gallstone colic, but rapid evacuation of the stomach points to duodenitis.

Serotherapy in Tetanus.—Etienne and Benech add eight new cases to their former series, a total of twenty grave cases of tetanus with three deaths. All the others recovered under massive antitetanus serum in large doses. The incubation was from one to five days in six with no deaths, and from six to ten days in five, with one death. They do not hesitate to affirm that tetanus can be cured by serotherapy if the patient does not die in forty-eight hours after the first injection.

Negative Wassermann Reactions.—Pinard expatiates on the necessity for investigating the family when the Wassermann test is negative in dubious cases.

Residual Nitrogen in Grave Nephritis.—A case of fatal nephritis is described in which the total nitrogen in the blood increased remarkably but the residual declined as the fatal uremia developed.

Fluid in Fasting Stomach.—Hayem presents evidence that the concentration of the fluid found in the fasting stomach is the only reliable element in the diagnosis of postdigestive hypersecretion. The presence in the fasting stomach of fluid may be due to extragastric secretions or stomach mucus, and even large amounts of fluid do not necessarily indicate stenosis or ulcer. When there is pronounced dilation of the stomach, he reduces the number of meals to two with an interval of nine hours. In some cases he aids in the evacuation of the first meal by having the patient recline for an hour before dinner with the hips raised. By these means he very seldom has to resort to lavage of the stomach.

Bubonic Plague in Paris.—Summarized in News department, February 12, p. 460.

Journal de Chirurgie, Paris

1921, **17**, No. 2

*Fracture of the Neck of the Femur. A. Basset.—p. 81.
*Present Status of Treatment of Aneurysm of the Carotid. C. Lenormant.—p. 121.

Fracture of the Neck of the Femur.—Basset gives a detailed, illustrated description of the simple apparatus which facilitates driving a screw lengthwise into the neck of the femur, through the head to the acetabulum according to Delbet's technic. He has applied this method in ninety-five cases for recent fracture or pseudarthrosis, and regards it as reliable and simple and sure to succeed. He uses an ordinary screw from 7 to 10 cm. long, with wide spirals, preferring this to a screw made of dead bone as stronger and more reliable. It may be possible, however, to use the dead bone with a metal guide insert. The method can be applied without the apparatus for orientation, but the screw is liable to go astray.

Present Status of Treatment of Aneurysm of the Carotid.—Lenormant has compiled twenty-six cases since 1911 of operative treatment of aneurysm of the carotid, and sixty-four of aneurysm involving both the carotid and the jugular vein.

Journal de Médecine de Bordeaux

Jan. 25, 1921, **92**, No. 2

The Oscillometer Curves in Relation to Force of Heart Action. R. Alexandre and R. Moulinier.—p. 39.
The Histo-Physiology of the Sense of Touch. G. Dubreuil.—p. 41.
Case of Dolichostenomelia. R. Dupérie, Dubourg and Guénard.—p. 43.
*Injection of Oxygen in Mushroom Poisoning. J. Hubert.—p. 47.

Injection of Oxygen in Mushroom Poisoning.—Hubert supplemented the usual measures by injection of oxygen twice a day into the thigh for the first three days, in two members of a family of three all showing severe mushroom poisoning. Both recovered while the other, not given the oxygen, died.

Journal de Radiologie et d'Electrologie, Paris

December, 1920, **4**, No. 12

*Radiotherapy of Uterine Sarcomas. A. Béclère.—p. 529.
*Radium Therapy of Uterine Fibromyomas. T. Nogier.—p. 537.
*Radiometry of the Pelvis. Guilbert.—p. 547.

Radiotherapy of Uterine Sarcomas.—Béclère confesses that he has never encountered a case of sarcoma of the uterus, but he cites the chapter devoted to this subject in the recent work on deep roentgen-ray treatment by Seitz and Wintz. They comment on the sarcomatous degeneration of uterine myomas, and state that their method of deep radiotherapy will cure these as well as primary sarcomas in the uterus. They report eighteen cases which sustain this assumption. Béclère quotes the first three cases in full, as the interval of three or four years since the treatment has apparently confirmed the complete cure. These patients were girls of 14, 16 and 24, exsanguinated, cachectic and inoperable, with microscopically confirmed sarcomas, one as large or larger than a child's head. Under three or four applications of radiotherapy, the tumors subsided and the patients are now, four years later, strong and healthy, with full earning capacity restored. Four of the fifteen others have died but eleven are in perfect health, the complete cure lacking only, apparently, the test of time. The fear of sarcomatous degeneration therefore should not deter from the application of radiotherapy to a tumor in the uterus, he remarks in conclusion, to judge from this work in Germany.

Radium Treatment of Uterine Fibromyomas.—Nogier concludes his advocacy of this treatment by saying that among its special advantages are that it rapidly arrests menorrhagia and metrorrhagia even in young women; that it usually causes the retrogression if not the complete subsidence of fibromyomas, and it accomplishes this in a short time and without risk for the patients. But the principal advantage is that it is the only treatment that can be applied to patients too anemic or with heart or kidney disease too far advanced to permit operative intervention.

Pelviradiometry.—Guilbert's method is based on geometrical calculations from orthogonal projection.

Lyon Chirurgical

November-December, 1920, **17**, No. 6

Radiology of Shoulder and Hip Joint. F. Arcelin.—p. 669.
Surgery of Lower Bladder. V. Rochet.—p. 687. Cont'n.
*Epigastric Hernia. E. Villard.—p. 700.
*Capillary Circulation. R. Leriche and A. Policard.—p. 703.
*Pneumococcus Arthritis. Plisson and Brousse.—p. 705.
Multilocular Cyst of Lower Jaw. L. Laroyenne and P. Wertheimer.—p. 713.
Large Mixed Tumor of Soft Palate. L. Moreau.—p. 721.
Histology of Six Cases of Undescended Testes. L. Michon and P. Porte.—p. 731.
Pathogenesis of Curvature of the Radius. R. Tillier.—p. 739.
*The Lymphocyte in the Defense Against Cancer. R. Noël.—p. 744.

Epigastric Hernia.—Villard recalls that epigastric hernia is merely a hernia of the round ligament of the liver through the linea alba.

Capillary Circulation.—Leriche and Policard show the changes in the size of the capillaries during stimulation of the peri-arterial sympathetic innervation, and also during ligation of the artery. The contraction of the capillaries confirms the effects of peri-arterial sympathectomy.

Pneumococcus Arthritis.—Plisson and Brousse have compiled 185 cases of pneumococcus arthritis, but in only twenty-six cases was the arthritis primary, with no other pneumococcus lesion to be found; fourteen were in children. They report a case of purulent arthritis of the knee in a young man. Passive mobilization was begun as early as possible, and the results were satisfactory after arthrotomy, drainage and immobilization.

The Lymphocyte in the Defense Against Cancer.—Noël describes here the work that has been done in America in this line.

Presse Médicale, Paris

Jan. 29, 1921, **29**, No. 9

Present Status of Treatment of War Wounds. P. Lecène.—p. 81.
*Action of Atropin in Epidemic Encephalitis. A. Radovici and J. F. Nicolesco.—p. 83.
History of Cervical Ribs. M. Nathan.—p. 86.

Action of Atropin in Epidemic Encephalitis.—Radovici and Nicolesco give charts showing the attenuation of the involuntary movements in five cases of severe epidemic encephalitis under the influence of atropin. The doses were 1 or 2 mg. and all the patients experienced more or less relief from the choreiform jerking which had prevented sleep.

Revue de Chirurgie, Paris

1920, **39**, No. 7-8

*Disarticulation of Foot to Heel. G. Küss and L. Houdard.—p. 465.
*Ulcer of the Colon. R. Soupault.—p. 480.
*Excision of the Spleen. G. Léo.—p. 525.

Disarticulation of Foot to the Heel.—Küss and Houdard show by several illustrations the importance of retaining a long and broad flap of the skin of the sole after the Ricard operation. This flap can be brought up to suture in front of the heel, giving a fine stump.

Ulcer of the Colon.—Soupault recently had occasion to operate in a case of perforated ulcer of the ascending colon. In connection with this case he reviews what has been written on the subject, summarizing twenty cases in men and six in women. In several of the cases the perforation was the first sign of trouble; with the finding of a sound appendix, perforation of an ulcer in the colon should be suspected. In all cases of chronic intestinal stasis, a perforated simple ulcer should be sought. Twenty-one of the twenty-seven cases proved fatal. He is inclined to advise simple suture of the perforation unless conditions compel resection. He merely sutured the perforation in the young woman whose case he reports in detail.

Excision of the Spleen.—Léo reports a case of seton wound of the spleen in which he excised the injured area. He arrested the parenchymatous hemorrhage by drawing up the lips of the wound in the spleen, and the young man was sent to the rear in a sitting position, the twenty-fifth day after the operation, in good condition.

Revue de Médecine, Paris

1920, **37**, No. 12

*Blood and Cerebrospinal Fluid in General Paresis. C. Levaditi and A. Marie.—p. 569.
*Tracings of Radial and Jugular Pulse. E. Guilleaume.—p. 589.
*Constitutional Dysthymia. R. Benon.—p. 610.

The Blood and the Cerebrospinal Fluid in General Paresis.—Levaditi and Marie report the findings in twenty-nine patients with general paresis, examined repeatedly to determine the relations between and the fluctuations in the findings in blood and spinal fluid in respect to complement fixation, etc. They confirm the importance of the physical changes in the body fluids induced by the spirochetes.

Simultaneous Pulse Curves.—Guilleaume remarks that the heart, more perhaps than any other organ, requires frequent reexamination to obtain insight into its functional capacity. Nothing is so instructive for this as simultaneous tracings of the arterial and venous pulse, and this graphic method is simple and rapid. The right jugular vein is so closely connected with the right auricle that it is easy to obtain a legible curve with the apparatus applied to the vein, the patient reclining. With good compensation, mitral insufficiency does not modify the venous tracing, nor aortic or pulmonary lesions nor hypertrophy of the heart of aortic or renal origin. But stenosis of the tricuspid valve early modifies the venous pulse, and with failing compensation the jugular pulse soon warns that the heart is becoming dilated. He gives a number of typical tracings, urging that the simultaneous study of the radial and jugular pulse is liable to yield important information at the moment when it is most needed. It shows the tendency to dilatation in the anemic and the obese before any other signs give warning. In diseases accompanied with high blood pressure it shows the danger from the obstacle thus revealed, before the obstacle has made its presence felt otherwise. It has even permitted the diagnosis of nephritis before the urine showed albumin, and has proved the reliable basis for the prognosis in nephritis threatening to become chronic.

Constitutional Dysthymia.—Benon expatiates on the necessity for differential diagnosis of conditions with alternation of excitement and depression according as they are the result

of a periodic psychosis, a manic-depressive psychosis, or of an individual constitutional emotivity, Magnan's loss of psychic balance. He describes two typical cases, and emphasizes that the term cyclothymia must not be applied to the former group.

Policlinico, Rome

Jan. 24, 1921, **28**, No. 4

New Form of Epidemic Encephalitis. P. F. Zuccola.—p. 113.
*Luxation of Fingers. E. Borelli.—p. 115.
Total Fracture of the Acetabulum. E. Casati.—p. 118.
Hematuria from Hexamethylenamin. L. Andalò.—p. 119.
Prophylaxis of Malaria. D. Falcioni.—p. 120.

Jan. 1, 1921, **28**, Medical Section No. 1

Comparative Radiography of Pulmonary Tuberculosis in Children and in Adults. P. Alessandrini.—p. 1.
Pathogenesis of Effusions with Induced Pneumothorax. F. Dumarest and F. Parodi.—p. 12.
Induced Pneumothorax in Pulmonary Tuberculosis. Rodano.—p. 32.
Mechanism of Respiration During Induced Pneumothorax. U. Cassinis.—p. 43.

Luxation of Fingers.—Borelli was able to reduce three of the fingers but for the forefinger it was necessary to release the metacarpal bone as it had slipped through the ligament to the palm. The child had hit its fingers first in falling.

Riforma Medica, Naples

Jan. 8, 1921, **37**, No. 2

*Pleurisy and Peritonitis in the Syphilitic. F. Schupfer.—p. 25.
*Kleptomania. C. Todde.—p. 32.
*Early Diagnosis of Cancer of the Rectum. G. Sofrè.—p. 34.

Pleurisy and Peritonitis in the Syphilitic.—The case reported responds to all the requirements for a syphilitic pleurisy, as there were other lesions of syphilis apparent and the disease subsided under mercurial treatment. But Schupfer presents arguments to prove that in this case, as in the overwhelming majority of similar ones on record, the pleuritis was in fact of tuberculous origin. The development in a syphilitic conferred special features on it, modifying the clinical picture. The tuberculosis is generally primary, and treatment of the syphilis improves conditions even for the tuberculous disease. He protests against Letulle's statement in 1918 that the seventy-four patients with a positive Wassermann reaction in his 154 cases of Laennec's cirrhosis of the liver confirm that the ascites in such cases is due to syphilitic peritonitis. Letulle never succeeded in isolating spirochetes in these cases, but Schupfer found that the results of treatment in this cirrhosis were identical whether the Wassermann test was negative or not. He has traced many of the cases of supposed syphilitic pleurisy on record, and has found that they developed frank tuberculosis sooner or later.

Kleptomania.—Todde reports a case in which the kleptomania in the child of 12 seemed to form part of the epileptic syndrome.

Early Diagnosis of Cancer of the Rectum.—Sofrè warns that in addition to the hemorrhage, constipation and pains, or even in their absence, an oozing of fluid from the anus is strong presumptive evidence of cancer of the rectum. In one patient the slight soiling of the linen found on rising in the morning was almost the only sign to attract the man's attention, but Sofrè found an enlarged gland which had developed recently in the inguinal region. The rectoscope revealed a cancer which would have escaped examination with the finger. Vague abnormal sensations in the rectum and false desires to defecate are also instructive. The inguinal region should always be examined for enlarged glands on suspicion of disease in the rectum.

Anales de la Facultad de Medicina, Montevideo

September-October, 1920, **5**, No. 9-10

*Cinematization. G. Bosch Arana.—p. 453.
Calcium in Epilepsy. H. J. Rossello.—p. 487.
Epistaxis and Its Treatment. P. J. Martino.—p. 506.
*Atypical Tetanus. D. Prat.—p. 539.
*Complement in the Wassermann Test. A. Prunell.—p. 549.
*Diagnosis of Syphilis. R. Capurro.—p. 562.
Silver Salvarsan and Sulphoxilate. G. Pelfort.—p. 570.

Cinematization.—Bosch Arana's article has sixteen illustrations. It was delivered as an exchange lecture, summarizing his extensive work in this line of adapting amputation stumps for volitional muscle control of prostheses. He calls it the new mutilating surgery of cineplastic amputations.

Atypical Tetanus.—In the first case reported by Prat the tetanus did not develop until four months after the wound, and it was not grave, and recovery followed the excision of the area in the thigh injured by a gunshot wound. In another case the tetanus developed in a child after herniotomy, and the infection is ascribed to the catgut, "one of the best North American makes." In a third case the tetanus developed twenty-eight hours after compound fracture of the humerus in a boy of 7, and five hours after injection of antiserum, but the child recovered under chloral and camphorated oil treatment plus a total of 90 c.c. of antiserum.

Complement in the Wassermann Test.—Prunell concludes from his analysis of recent literature and his own experimental research that the complement may undergo great variations in vitro so that its activity should be determined each time. He makes a point of titrating the alexin in contact with the antigen with a mixture of ten various negative and positive serums, to test the properties of each antigen. He found that the reaction occurs with a tenth less of the complement when there is alcohol present. He examined thirty-six guinea-pigs under the same conditions to determine the exact quantity of complement in their serum and its activity. The amboceptor unit is the smallest amount which with a given quantity of complement and physiologic saline produces hemolysis in thirty minutes. The unit for guinea-pig serum is that amount which diluted to one tenth produces hemolysis with 0.3 c.c. of the solution. The guinea-pigs were punctured under the same conditions and at the same hour. The range of pure complement necessary was from 0.02 to 0.05 c.c. in the different animals.

Diagnosis of Syphilis.—Capurro remarks that a well equipped laboratory must be the basis for an institution of syphilography. He describes Vernes' recent work as throwing much light on the matter of the serologic tests. The latter declares that if the cerebrospinal fluid is normal after provocative injection of an arsenical, and if the negative reaction in the fluid keeps up for eight months, examined monthly, either the subject never had syphilis or has completely recovered. The problem of the diagnosis of latent syphilis thus blends with the problem of the adequacy of treatment. Capurro comments on this law of Vernes that his ten years of experience have not been enough to sustain this eight month limit as infallible, as syphilis is such a long and capricious disease, but experience to date has shown nothing to conflict with it. The effect of arsenical medication causing the subsidence of dubious superficial lesions cannot be accepted as a reliable sign of the syphilitic nature of these lesions, as the action of the arsenicals is far from specific, and they may cure pathologic conditions of other origin as well. On the other hand, the persistence of true syphilitic lesions may be explained by the action of associated microorganisms.

Brazil-Medico, Rio de Janeiro

Dec. 4, 1920, **34**, No. 49

*Primary Dementia from Arteriosclerosis. U. Vianna.—p. 805.
*Urticaria in Malaria. J. A. G. Fróes.—p. 807.
*The Passiflora. U. Paranhos.—p. 807.

Jan. 1, 1921, **35**, No. 1

Vaccination Against Dysentery. A. de Vasconcellos.—p. 1.
Leeches as Intermediate Hosts of Trematodes in Natural Conditions. C. Pintô.—p. 3.
Medicolegal Testimony. L. Ribeiro.—p. 4. Conc'n in No. 2, p. 20.

Arteriosclerosis of the Brain.—Vianna recalls that in primary dementia from cerebral arteriosclerosis, the mental disturbances develop slowly, following the course of the anatomic process. But in secondary dementia, the lesions occur precipitately, and the dementia develops by comparatively sudden focal symptoms, paralysis, aphasia, etc. With the primary form there is gradual impairment of attention, memory and association of ideas.

Urticaria in Malaria.—Fróes reports a case of quartan malaria with no chill, no fever, no sweats, the only manifestation being attacks of urticaria, with two days between free from symptoms. The four day intermissions were explained

by the discovery of the quartan hematozoa in the blood, tenderness of the liver and slight enlargement of the spleen.

The Passiflora.—Paranhos reports experimental research on the different Brazilian species of passiflora.

Crónica Médica, Lima

October, 1920, **37**, No. 688

Teaching Psychology in Medical Course. H. F. Delgado.—p. 325.
*Puerperal Sepsis in Peru. J. Silva Velasquez.—p. 331.
*Pathogenesis of Arthritism. M. Arias Schreiber.—p. 340.
*Operation for Ureter Calculus. C. Morales Macedo.—p. 342.

Puerperal Fever in Peru.—Silva Velasquez has been unable to find any mention of febrile childbirths in the early medical history of Peru, while many writers refer to the rapid and easy deliveries of the native women. The maternity was founded at Lima in 1830, and the mortality from puerperal fever there was 4.38 per cent. of 1,711 births in 1915 but only 1.66 per cent. of 2,109 births in 1918. He holds syphilis and gonococcus infection responsible for much of this morbidity.

Endocrine Factors in Arthritism.—Arias Schreiber explains how the disturbances in metabolism which accompany and characterize arthritism are intimately related to the modifications of the nerves which preside over catabolism and anabolism, that is, the vagus and sympathetic nervous systems. Treatment should be addressed to these to restore the normal balance between them.

Calculus in Ureter.—Morales Macedo diagnosed a calculus impacted in the lower segment of the ureter, from the various symptoms, above all, the persisting, exaggerated pollakiuria with violent contractions of the bladder. Cystoscopy revealed a small tumor at the mouth of one ureter, and he resected 1 cm. of the edematous tissue surrounding the meatus. This disclosed the calculus and it was dislodged, dropping into the bladder. Before operating for a ureter calculus, the catheter should be passed into the ureter and cocain and oil injected. Only when these and similar measures fail, should an operation be considered.

Gaceta Médica de Caracas, Venezuela

Nov. 15, 1920, **27**, No. 21

*The Pathology of Venezuela. F. A. Risquez.—p. 263.
*Hemoglobinuric Fever. A. Herrera Vegas.—p. 270.

The Pathology of Venezuela.—This is an address delivered by Risquez at a meeting of the Tropical Medical Society at Paris. He describes the country from the medical standpoint, recalling that every climate is to be found there, from the torrid coast to the perpetual snow of the mountains. Malaria, tuberculosis, and syphilis are the great scourges of the country, and all are avoidable. If these can be exterminated, he declares, Venezuela would be a Mecca for the sick, the paradise of the new world, only five days from New York and fifteen from Europe.

Hemoglobinuric Fever.—Herrera Vegas quotes Nogué on the value of infusion of artificial serum in treatment of blackwater fever. Drinking large amounts of fluid is equally effectual, but when the disease is at its height the patient is unable to drink, and infusion is the only choice. Some have found useful a 92.5 per thousand artificial (lactose) serum or glucose serum at 45 per thousand. Hypertonic serums seem to do harm. In a series of twenty-three cases, artificial serum by rectal drip proved successful, but these were followed by a group of three cases which proved rebellious to all measures showing that none of them are infallible, especially if not given in time. Nogué described a case in which quinin seemed to have been an unmistakable factor, but Ochoa has encountered cases in persons who had not taken quinin. Ayala related that his main reliance is on a 20 per thousand solution of sodium chlorid, such as he used to find effectual in yellow fever, when this latter disease had a foothold in the country.

Gann, Tokyo

December, 1920, **14**, No. 4. Paging refers to English summaries

*Fat in Diet of Chickens as Affecting Tumors. N. Akamatsu.—p. 27.
*Carcinoma in Child's Testicle. C. S. Lee.—p. 33.

Fat in Diet as Affecting Tumors in Hens.—Akamatsu describes the dietetic effect of rectified wool-fat on the transplantation and proliferation of transplantable chicken fibromas. The article is illustrated, with an extensive bibliography. In the process of transplantation over many generations, all such growths undergo various changes in shape and biologic characteristics, but the lipemia induced by feeding fat seems to have a special influence in this line, altering the biologic characteristics of the transplantable fibromas, and affording them more favorable conditions for their growth in the hen body.

Carcinoma in Child's Testicle.—This tumor in the right testicle of a boy of 6 was an adenocarcinoma, with metastases in the epididymis, in both lungs, in the lymphatics of the posterior abdominal wall, in the left parietal lobe of the brain, and in the right kidney. Lee remarks that both blood and lymph circulation must have been involved in this metastasis. This article also is illustrated, with bibliography.

Deutsches Archiv für klinische Medizin, Leipzig

Sept. 10, 1920, **133**, No. 5-6

*Innervation of the Stomach. P. Klee.—p. 265.
*Fluctuations of the Sugar Content of the Blood in Mountain Climate. H. C. Frenkel-Tissot.—p. 286.
*Soft Parts and Blood Pressure Measurements. E. Hering.—p. 306.
*Patent Interventricular Septum. H. Müller.—p. 316.
*Tests of Kidney Functioning. F. Haastert.—p. 332.
*Alkalinity of the Blood. B. Kuhlmann.—p. 346.
*The Heart in Acute Nephritis. Alwens and Moog.—p. 364.
Atypical Electrocardiograms. H. v. Hoesslin.—p. 377.
*Comparison of the Venous and Capillary Blood. Bogendörfer and Nonnenbruch.—p. 389.
*Resistance of the Erythrocytes to Hypotonic Saline. E. Brieger.—p. 397.

Innervation of the Stomach.—Klee found that atropin always affected peristalsis in the stomach and retarded evacuation, but it did not relieve spasm of the stomach wall unless sympathetic tonus reinforced the action of the atropin. Without this, the tension and the spastic contraction were uninfluenced. This experimental research on decerebrated cats confirmed the empirical observation that atropin aids in the differentiation between organic and functional stenosis only when there is relaxation in the region involved.

Fluctuations of the Sugar Content of the Blood in Mountain Climate.—Tissot relates experiences with large numbers of young men who had escaped from the Italian prison camps and were fleeing over the mountains back to Austria and Hungary. They were kept at the Samaden hospital for five days' observation, at an altitude of 1,750 m. (5,800 feet). The behavior of the sugar in the blood was studied under the influence of altitude, sunbaths, and overheating. The sugar content of the blood was approximately the same at this altitude as in the lowlands, but under the influence of the sunbaths and electric light, the normal sugar content was increased, as he describes in detail.

Influence of the Soft Parts on Blood Pressure Measurements.—Hering calls attention to the source of error from the varying size of the soft parts of the arm. The blood pressure is always lower in the atrophic arm than in the natural arm.

Patent Interventricular Septum.—Müller describes the findings in nine cases of open septum without other complications, and compares them with fifty-nine from the literature.

Tests of Kidney Functioning.—Haastert does not describe the technic applied, which was according to Strauss' method, but his findings in 100 tests on 75 patients showed that the determination of the residual nitrogen in the blood is an important element for the diagnosis in connection with repeated functional tests and clinical study of the case. Even with apparently normal findings, otherwise, the residual nitrogen may be found abnormally high, and thus reveal latent disease. The indican reaction is not an adequate substitute, and the potassium iodid test is not reliable.

Alkalinity of the Blood.—Kuhlmann reports research which has confirmed the reliability of the aerotonometric method of investigating the blood for disturbances in the balance of acids and bases, especially by the Morawitz and Walker technic. He describes this method in detail.

The Heart in Acute Nephritis.—Alwens and Moog have traced to date twenty cases of acute nephritis to estimate the effect on the heart. The heart is involved in the early stage of acute nephritis almost without exception, but this is evident only with radioscopy.

Comparison of the Venous and Capillary Blood.—The number of blood corpuscles, and amount of serum albumin and serum sodium chlorid in the venous and capillary blood are tabulated for a number of cases. The findings show that the capillary blood from the finger differs considerably from the blood from a vein in the arm. This difference can be overcome by placing the hand in hot water (45 C.) for five minutes and rubbing the hand afterward. This equalizes the blood so that there is no difference between the capillary blood and the venous blood. The research showed further that the three elements varied widely, independently of each other.

Resistance of the Erythrocytes to Hypotonic Saline.—Brieger uses a colorimeter and a set of centrifuge tubes containing saline of different strengths, adding 20 c.mm. of blood to each tube. The charts thus obtained are more reliable than with any other method he has ever tried.

Deutsche medizinische Wochenschrift, Berlin

Nov. 11, 1920, **46**, No. 46

*Treatment of Carcinoma of Larynx and Pharynx. Amersbach.—p. 1269.
Estimation of Curative Effects of Treatment in Pulmonary Tuberculosis. H. Zondek.—p. 1271.
Clinical Aspects and Pathologic Anatomy of High Blood Pressure. P. Schenk and G. Töppich.—p. 1271.
Leukocyte Count Before and After Operative Reduction of Suprarenals in Epilepsy (H. Fischer Method). F. Schlund.—p. 1273.
Blood Platelets. V. Schilling.—p. 1274.
Operative Treatment in Rachitis. F. Loeffler.—p. 1274.
Hemorrhage of Suprarenals. Freudemann.—p. 1275.
"Parasyphilis." C. Stern.—p. 1276.
Peculiar Case of Epidemic Cerebrospinal Meningitis. E. Neter.—p. 1278.
Bladder Injuries in Vagina Operations. E. Solms.—p. 1279.
Friedmann's Lecture on "Friedmann's Treatment and Prophylaxis of Tuberculosis in Men and Animals." B. Lange.—p. 1280.
Hemorrhages of the Urinary Passages. L. Casper.—p. 1280.

Roentgen-Ray Treatment of Carcinoma of the Larynx and Pharynx.—Amersbach gives an account of the recent experiences in the University Eye, Nose and Throat Clinic at Freiburg, Baden. So far no cancer of the larynx or pharynx has been cured by roentgen-ray treatment. Results from operative treatment in the case of tumors of the larynx in the beginning stages are favorable. The results of operations on extensive carcinomas, especially of the pharynx, which require a transverse resection by the Gluck method are usually bad. However, a cure was effected in a few cases, and the patients were made fairly comfortable. Experience from a large number of operations shows that repeated irradiation preceding operation markedly injures the healthy tissues, causing greater danger from hemorrhage both during and following operation. It also endangers primary and secondary plastic intervention. If the cancerous area is irradiated after the operation, the injuries to the tissues need not be taken so seriously. In the case of large tumors, especially of the pharynx, irradiation before operation is indicated in some cases. In the case of inoperable tumors, irradiation is of course indicated.

Deutsche Zeitschrift für Chirurgie, Leipzig

September, 1920, **159**, No. 1-6. Von Eiselberg Number

Action of Dakin's Solution. A. Ritter.—p. 1.
*Suicides by Electric Current. H. Jaeger.—p. 33.
*Blocking the Splanchnic Nerves. G. A. Preiss.—p. 59.
Tetanus. A. T. v. Beust.—p. 102.
*Blindness After Puncture of Lung. K. Schlaepfer.—p. 132.
Gravity Abscess in Anterior Mediastinum. H. R. Schinz.—p. 163.
Neo-Arthrosis with Luxation of Head of Radius. Vonwiller and G. A. Preiss.—p. 174.
The Arterial Blood Supply of the Stomach. S. Jatrou.—p. 196.
Primary Actinomycosis of the Stomach. P. Hadjipetros.—p. 224.
Idem: Roentgen Findings. H. R. Schinz.—p. 242.
The Wirsung and Santorini Ducts from Surgical Standpoint. P. Clairmont and P. Hadjipetros.—p. 251.
Congenital Duodenal Stenosis. E. Bosch and H. R. Schinz.—p. 284.
Duodenal Diverticulums. P. Clairmont and H. R. Schinz.—p. 304.
*Acute Pancreatitis after Resection of Duodenum. R. Peicić.—p. 362.
Subphrenic Abscess. E. Liebmann and H. R. Schinz.—p. 389.

Suicides with Electric Current.—All the articles in this volume issue from the clinics of Zurich, and the volume is dedicated to von Eiselsberg. Jaeger describes an attempt at suicide on a wire carrying 45,000 volts, by a boy of 15. The comparatively slight injury from the electric shock was remarkable. Jaeger has found records of twenty-two attempts at suicide by this means; in seventeen the attempt succeeded, but the others were resuscitated. All were men accept a boy of 12 and this one of 15. As it was raining, the clothes of the latter were wet; there were several small holes burned in the clothing and the epidermis had scaled off and clung to the charred area.

Blocking the Splanchnic Nerves.—Preiss analyzes the anatomic and physiologic conditions involved in blocking the splanchnic nerves and the rami communicantes of the lumbar innervation, with numerous illustrations, and review of 143 articles on the subject. His conclusions are that the preferable technic is to inject the anesthetic on a level with the third lumbar vertebra, instead of Kappis' lower site for the two injections. This modification is best for operation on kidneys, spleen and colon. A secondary injection can be made from the front, after the abdomen is opened, to supplement the original Kappis technic. The best results were obtained with a 2 per cent. procain-epinephrin solution, with addition of potassium sulphate. If the needle pricks a vessel, this does no harm, but injection of any of the anesthetic into the vessel may be serious. Acute procain intoxication was observed in two cases (from the fluid being injected into a vein), as severe collapse, with cramps and arrest of the respiration, but there was no permanent injury therefrom. This technic has been applied in 192 cases at the surgical clinic, after extensive research on the cadaver. The excellent postoperative condition is particularly striking, and he commends the method with a clear conscience as reliable and its future assured. The dangers with it are no greater than with general anesthesia.

Transient Blindness After Puncture of the Lung.—Schlaepfer reports a case in which the needle used for the exploratory puncture was left open as the syringe was removed. Air was aspirated and it was drawn into a vein in the lung, and induced air embolism in the brain. This was evident from the loss of consciousness for two and a half hours and total blindness for three days. Air aspiration and embolism explain many of the cases recorded as pleural shock; in others, slight shock on a nervous basis in the predisposed may be assumed.

Postoperative Acute Pancreatitis.—After resection of the duodenum on account of ulcer, acute suppurative pancreatitis developed, with multiple foci of necrosis in the subcutaneous adipose tissue. The patient recovered finally, after several operations. This is the second case of complicating pancreatis after an operation on the duodenum, and is one of the few cases on record of subcutaneous fat necrosis with acute pancreatitis. The patient was a previously healthy iron worker of 20.

Wiener klinische Wochenschrift, Vienna

Oct. 21, 1920, **33**, No. 43

*Ileus and Peritonitis During Pregnancy, etc. R. Köhler.—p. 937.
Laceration of Horseshoe Kidney from Contusion. H. Hinterstoisser.—p. 942.
*Experimental Thermopenetration. W. Kolmer and P. Liebesny.—p. 945.
*Thermopenetration in Intermittent Claudication. R. Grünbaum.—p. 946.

Ileus and Peritonitis During Pregnancy, Childbirth and Childbed.—Köhler gives an account of his experiences with two cases of peritonitis and four cases of ileus complicating pregnancy, childbirth or childbed. Summing up his experiences, he says that both ileus and peritonitis are to be regarded in most cases as only accidental complications of pregnancy and childbirth. The cases in which a pregnant uterus alone produces the ileus are rare. The bad outcome of his cases would seem to indicate that the prognosis of the combination is unfavorable. As regards the management, he recommends in most cases delivery by vaginal section as the method of choice. The operation is always indicated, but in hopeless cases it is better to refrain from intervention unless thereby the life of the child can be saved.

Experimental Investigations on Thermopenetration.—Kolmer and Liebesny report the results of their experiments on dogs to determine the mode of action of high frequency currents. The electrodes were applied directly to the testicles of the animals. The strength of the current was about 0.2 ampere. By means of this electrodiathermy a distinct and persistent hyperemia of the testicles and the spermatic vessels could be produced at a depth without burning the skin. This experimental finding is in accordance with clinical experience,

which goes to show that whenever it is desirable to produce a marked thermic effect and thus hyperemia of the deeper-lying tissues, comparatively weak currents and protracted application are indicated. Microscopic examination of the enucleated testicles revealed that no round cell infiltration had been brought about in the normal tissues, which however cannot be taken as proof that under pathologic conditions, as in the presence of tumor tissue, a round cell infiltration might not be produced. Investigations covering this point are under way.

Thermopenetration in Intermittent Claudication.—Grünbaum has been much encouraged by results of thermopenetration in his eight cases of intermittent claudication. Six men and two women whose ages ranged from 40 to 56 were treated. Of the men, four were heavy smokers, one smoked occasionally and one was a nonsmoker; of the two women, one was a heavy smoker of cigarets, while the other smoked very moderately. Syphilis was denied in all cases. In seven of the cases the manifestations were bilateral; in only one case, that of a physician who had smoked very moderately, the disease process was confined to the right lower extremity. The subjective symptoms were described by all the patients in much the same manner. The most important objective symptom is the absence of pulse in the arteria dorsalis pedis. Blood pressure was usually normal. The results of electrodiathermy extending over a period of from four to eight weeks were very satisfactory. To be sure, the cases were all of the milder type. In some cases the patients have become able to walk a considerable distance without pain. The technic of the treatment is very simple and is described in detail.

Zeitschrift für klinische Medizin, Berlin

1920, **90**, No. 1-2

Etiology of Orthostatic Albuminuria. C. Sonne.—p. 1.
*Influence of Venesection on Waste Products. E. Becher.—p. 7.
Influence of War Diet on Secretion of Urine. Clara Happel.—p. 29.
*The Albuminuria from Sports. H. C. Frenkel-Tissot.—p. 54.
*Hematuria as Only Symptom of Nephritis. Zehbe.—p. 68.
*Early Diagnosis of Cerebral Arteriosclerosis. C. Stein.—p. 88.
Origin of Lipase in Blood. S. Bergel.—p. 117. Idem. Caro.—p. 124.
Nature of Diabetes Insipidus. E. Hecht.—p. 120.

Influence of Venesection on Retained Waste Products.—Becher found that in nephrectomized dogs, with complete anuria, the residual nitrogen accumulated in the muscles as well as in the blood, as even in normal conditions the muscles are the chief storage place for it. After extensive venesection, more of the residual nitrogen was found in the blood than before, which might lead to the erroneous assumption that the amount of waste had been increased. But it must be borne in mind that the amount of noncoagulable nitrogen escaping in the drawn blood represents only a small percentage of the total amount accumulated in the body. Hence it is futile to expect to clear the system of waste products by any venesection.

Albuminuria from Sports.—Frenkel-Tissot's research was done mainly on ski runners in the Swiss mountains. He found albuminuria in all of ten examined after a ski racing match, and tube casts were found in 80 per cent. and erythrocytes in 30 per cent. Comparison of these findings with others in the literature and with the condition of the athletes in later years, has confirmed, he says, that this albuminuria is a physiologic phenomenon, like fatigue, and that it can be overcome by training, just as the tendency to fatigue grows less and less with longer training. Years of observation of athletes have never revealed, he states, a single instance of a facultative albuminuria of this nature becoming transformed into albuminuria of true nephritic origin. Constitutional conditions in regard to the circulation, however, might form a bridge to actual organic changes in the kidneys, the *débilité rénale congénitale* of the French. The familial cases that have been encountered of alternating benign and nephritic albuminuria compel this assumption. It explains also orthostatic albuminuria.

Hemorrhagic Nephritis.—Zehbe reports five cases of hematuria appearing without other symptoms from the kidneys. They formed 1.64 per cent. of a total of 304 cases of nephritis. The hemorrhagic focal or diffuse glomerular nephritis may affect one or both kidneys, and although the urine may show formed elements at first, they may disappear and the hematuria be the only symptom. It may long continue, possibly for years; in one of his cases increasing insufficiency of the kidneys is evident. The differential diagnosis may be extremely difficult. It can be made only by exclusion. No therapeutic measures displayed any efficacy, and treatment had to be restricted to averting further damage of the kidneys. In one case severe exacerbation followed tonsillectomy. The duration of the hematuria was from over one to thirteen months, and in only one was function normal at the end of this period. Another was much improved but still had occasional hematuria; one patient shows no signs of improvement, and one shows incipient contracted kidney.

Tests of Internal Ear Functioning in Diagnosis of Cerebral Arteriosclerosis.—Stein reports that he has been studying this subject for nineteen years, and has recorded 1,026 cases. In the majority, the ear disease overshadowed pathologic conditions elsewhere. Vertigo was usually the symptom for which the internists sent the patients to have the ears examined. Stein regards as the most important result of his research that he found it possible by repeated examinations to detect and trace the progress of arteriosclerosis of the arteries of the brain. This was revealed by the manner of onset, the course, and the intensity of the phenomena presented by the ear rather than by the single symptoms themselves. Tinnitus is especially instructive in this respect; it may occur at intervals or continuously, but in the course of perhaps many years, organic disease of the auditory nerve becomes manifest. The complete failure of all treatment of the tinnitus indicates actual organic injury in the domain of the auditory nerve. Among the numerous instructive points brought out by his research is that with vasomotor changes the hearing may fluctuate, while with arteriosclerotic changes the findings keep at about the same level.

Zentralblatt für Chirurgie, Leipzig

Oct. 30, 1920, **47**, No. 44

Etiology of Osteochondritis Deformans Coxae. R. Levy.—p. 1338.
Cystic Tumor in Sheath of Tibial Nerve, Inducing Symptoms Simulating Flatfoot. F. Loeffler and J. Volkmann.—p. 1339.
*Volvulus of the Sigmoid Flexure. W. Lange.—p. 1341.
Inflammatory Tumor of Ascending Colon. E. Schultze.—p. 1343.
"Incarceration of Stomach in Femoral Hernia." P. Ahrens.—p. 1345.

Radical Cure of Volvulus of the Sigmoid Flexure.—Lange describes the Grekow-Kümmell invagination method as used in the Obuchoff Hospital in Petrograd in over twenty cases. It gave good results, though he is not able to give the mortality rate. He thinks that the invagination method has undeniably certain advantages over resection. The operation is simple, short, and can be performed by those who have not mastered the difficult technic that enters into resections of the large intestine. Furthermore, it fulfils two main requirements: total removal of the flexure and absolute asepsis. The mobilized portion invaginated in the rectum sloughs off spontaneously and is expelled in a few days.

Zentralblatt für Gynäkologie, Leipzig

Oct. 30, 1920, **44**, No. 44

*Mucous Membranes and Latent Microbism. A. Loeser.—p. 1254.
Device to Prevent Omission of Filter in Deep Roentgenotherapy. L. F. Driessen.—p. 1258.
Unilateral Roentgen Castration and Restoring of Tone to the Uterus in So-Called Metrasthenia. O. P. Mansfield.—p. 1260.

Constitution of Mucous Membranes in Relation to Latent Microbism, with Especial Reference to the Vaginal Flora and Puerperal Fever.—Loeser refers to the fact that nonpathogenic latent microbes inhabit the mucous membranes of healthy persons, and states that this latent microbism has (for example, in the intestine and the vagina) certain functions to perform, contributing to the normal course of biologic processes of the mucous membranes. The character of the latent microbism depends on the condition of the mucous membranes. The stronger the local condition of the mucous membranes, the stronger and therefore more nearly approaching a pure culture appears the latent microbism. If through disease, of either a local or a general character, the condition of the mucous membranes is impaired, then the latent microbism also becomes of an inferior character, especially as

regards its behavior toward infections from without. In other words, the disposition to exogenic infection depends on the character of the latent flora of the mucous membrane. These facts Loeser claims to have established by his bacteriologic investigations on constitutional inferiors; more especially with reference to the vaginal flora. The article has five photomicrograms showing the wide range of vaginal bacterial findings. It supplements one summarized on page 626.

Zentralblatt für innere Medizin, Leipzig

Oct. 30, 1920, **41**, No. 44

Reconstruction of Socket for Artificial Eye in Total or Partial Loss of Conjunctiva. A. Knappstein.—p. 753.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Dec. 25, 1920, **2**, No. 26

*Ophthalmic Herpes Zoster. C. O. Roelofs.—p. 2876.
*Attitude of the Head and the Muscles in the Limbs. J. H. O. Reijs.—p. 2883.
*Examination of the Blood in Malaria. B. Hylkema.—p. 2893.
Abscess in the Palate. J. J. de Vries.—p. 2896.
Medical Impressions of America. M. A. van Herwerden.—p. 2926. Cont'n.

Ophthalmic Herpes Zoster with Complications.—In Roelofs' case the girl of 12 had paralysis of the ocular muscles, keratitis and iritis as complications of herpes zoster in the right eye. The localization of the patches in the cornea indicated that this keratitis had something to do with the trigeminal nerve.

Influence of Position of the Head on the Muscles in the Limbs.—Reijs comments on the influence of the attitude of the head and cervical spine on the tonus of the fingers, a reflex action which has been studied in decerebrated animals. The effect was most pronounced on the right ring finger.

Examination of the Blood for Malaria.—Hylkema advocates examining the blood in a thick drop. This renders it easier to find the malaria parasites. His experience has shown that at least one or two of the parasites can be found in the drop of blood during the stage preceding the febrile attack, when the temperature just begins to rise.

Acta Chirurgica Scandinavica, Stockholm

August, 1920, **53**, No. 1

*Osteitis Fibrosa. F. Langenskiöld.—p. 1.
*Roentgen Diagnosis of Hydronephrosis. S. Ström.—p. 71.
Successful Antethoracic Esophageal Plastic Operation. G. Bohmansson.—p. 91. In English.

Osteitis Fibrosa.—Langenskiöld gives the clinical and microscopic detail of seven cases in connection with a survey of previous studies of identical or allied conditions. In localized lesions and especially where the bones become soft, resection of larger or smaller portions of osseous structures is indicated. Diffuse lesions are hopeless. (In German.)

Roentgen Diagnosis of Nephrosis with Calculus.—Ström succeeded in several cases in obtaining good pictures of renal calculi in various kidney diseases where the pathological modifications of structures often obscure the findings, especially with urate calculi. Injections of collargol in some cases assisted in making a positive diagnosis possible, because this substance attaches itself to the surface of the concretions and makes possible an impression on the plate. (In French.)

Finska Läkaresällskapets Handlingar, Helsingfors

November-December, 1920, **62**, No. 11-12

*Osteomalacia. F. Saltzmann.—p. 571.
*Rat-Bite Disease. A. J. Palmén.—p. 586.
*The Defensive Ferments in the Blood. J. Grönberg.—p. 599.
*Fixation of Complement in Bothriocephalus Carriers. G. Becker.—p. 632.
*Epidemic Encephalitis. A. Nikula.—p. 648. Idem: Pipping.—p. 659.

Osteomalacia.—Saltzmann states that osteomalacia is extremely rare in Finland although rachitis is comparatively common, but never in a severe form. He describes an unusually deformed case of osteomalacia in a woman of 33 who had never been pregnant, but other members of the family presented some tendency to fleeting pains and cramps.

Rat-Bite Disease.—Palmén's patient was a woman of 56 who developed typical symptoms a week after she had been bitten by a rat. Bacteriologic examination of the blood was negative, but prompt recovery followed an injection of 0.5 gm. of neo-arsphenamin.

The Defensive Ferments in the Blood.—Grönberg applies the Abderhalden test, learned in the latter's service, and has found the results reliable in pregnancy, cancer and pulmonary tuberculosis. He warns that sweat from the hand, scraps of epidermis, saliva, or minute residuum of ether in the reagent tubes may falsify the findings. He gives the findings in 28 cases of pregnancy, 23 of cancer, and 34 of pulmonary tuberculosis. The reliability of his verdict was enhanced by the fact that he did not know the source of the serum beforehand.

Fixation of Complement in Carriers of the Bothriocephalus.—Becker's research indicates that the presence of this broad tapeworm seems to be accompanied by production of antibodies. There was complete hemolysis in seventy-one of the ninety-two normal persons examined and only two showed complete fixation of complement. On the other hand, in fifty-eight with unmistakable evidence of the broad tapeworm only, thirteen showed complete hemolysis.

Epidemic Encephalitis.—Nikula reviews the present status of epidemic encephalitis, and Pipping reports three severe cases and two mild ones in children at Helsingfors.

Hospitalstidende, Copenhagen

Dec. 15, 1920, **63**, No. 50

*Muscular Rigidity and Paralysis Agitans. K. Winther.—p. 801. Conc'n in No. 51, p. 825.

Muscular Rigidity and Paralysis Agitans. — Winther describes two cases of disease in the thalamus causing, in one, general muscular rigidity and, in the other, shaking palsy. Necropsy in both showed bilateral lesions in the thalamus.

Dec. 29, 1920, **63**, No. 52

*The General Arc-Light Bath in Ophthalmology. K. K. Lundsgaard.—p. 849.
Aneurysm of the Hepatic Artery. S. Jonsson.—p. 860.

The General Arc-Light Bath in Ophthalmology.—Lundsgaard writes from the Finsen Light Institute at Copenhagen to describe the results in 200 cases of eye disease, with or without lupus, given the Finsen general light treatment in the course of the last three years. He reviews each class of pathologic conditions in turn. His final conclusions are not very favorable in respect to tuberculous disease of the eye except possibly with tuberculous scleritis and iridocyclitis in the young. The treatment is very long and tedious, and can scarcely compete with the direct exposure of the eye associated with tuberculin treatment. With much photophobia, the general light bath, the eyes covered, gave great relief but not so much as sunbaths under the same conditions.

Hygiea, Stockholm

Dec. 31, 1920, **82**, No. 24

Medical and Surgical Education in Finland and Sweden. J. Berg.—p. 833.
*The Fight Against Typhus in Poland. C. Näslund.—p. 845.

The Fight Against Typhus in Poland.—Näslund describes the work of the Swedish ambulance sent to Poland in 1920 to aid in stamping out typhus. The expedition tried various measures, the final decision being in favor of hydrocyanic acid as the most effectual means for clearing a house of lice. They used from 10 to 12 tons of sodium cyanid and sulphuric acid, in the course of their delousing efforts in 700 dwellings. The success surpassed all anticipations, and confirmed the feasibility of stamping out typhus and relapsing fever much more effectually than had been hitherto deemed possible. The concentration of the gas has to be from 0.5 to 2 per cent. by volume, depending on the impermeability of the houses. Directions for a delousing campaign are outlined, the Polish government having the intention to continue the work inaugurated by the Swedish Red Cross. Näslund adds that the work was mainly exploratory and tentative, and that both the Polish health authorities and the American Red Cross watched it with interest.

Ugeskrift for Læger, Copenhagen

Feb. 3, 1921, **83**, No. 5

Influenza Epidemic in 1920. J. Buchholtz.—p. 147.
Masked Urethral Syphilitic Chancre. O. Haslund.—p. 155.